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CONTENTS.

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HUNTERIAN LECTURE on the Physiology and Pathology of Uterine Hæmorrhage. Delivered before the Royal College of Surgeons of England on Feb. 12th, 1914, by H. BECKWITH WHITEHOUSE, M.B., M.S. Lond., F.R.C.S. Eng., Hunterian Professor, Royal College of Surgeons, England; Honorary Assistant Gynæcologist and Assistant Clinical Lecturer on Diseases of Women, General Hospital, Birmingham, &c.—(WITH ILLUSTRATIVE PLATES).—*(To be concluded)* 877

ORIGINAL ARTICLES.

Anæsthetics and Diagnosis. By J. BLUMFELD, M.D., B.C. Cantab., Senior Anæsthetist to St. George's Hospital 885

On Operations for Hæmorrhoids: a Review of 350 Cases. By ARTHUR NEVE, F.R.C.S. Edin., Surgeon to the Kashmir Mission Hospital 887

An Investigation into the Effects of Drinking-water upon the Causation of Dental Caries in School Children. By J. BASIL COOK, M.D., B.S. Vict., D.P.H. Cantab., M.R.C.S. Eng., L.R.C.P. Lond., Medical Superintendent to the Brentford Union Infirmary, Isleworth, W. 888

A Case of Malarial Coma Lasting 46 Hours; Recovery. By A. G. TRESIDDER, M.D., B.S. Lond., Captain, Indian Medical Service.—*(Illustrated)* 891

MEDICAL SOCIETIES.

ROYAL SOCIETY OF MEDICINE:
SECTION OF OBSTETRICS AND GYNÆCOLOGY:—Exhibition of Specimens.—Case of Chorion Epithelioma.—Cæsarean Section under Spinal Anæsthesia in Pregnancy Complicated with Morbus Cordis.—Abdominal Operation After Colostomy for Superior Recto-vaginal Fistula 892
PATHOLOGICAL SECTION:—Lesions of the Kidney in Ulcerative Endocarditis.—"Bleidoma" 893
SECTION OF LARYNGOLOGY:—Exhibition of Specimens and Cases 894

NORTH LONDON MEDICAL AND CHIRURGICAL SOCIETY: Radium and Radiation as a Therapeutic Agent 894

DEVON AND EXETER MEDICO-CHIRURGICAL SOCIETY: Diseases of the Œsophagus.—Treatment of Uterine Myomata by X Rays 895

EDINBURGH OBSTETRICAL SOCIETY: Etiology of Eclampsia.—The Registration of Stillbirths 896

UNITED SERVICES MEDICAL SOCIETY: Some Experiences of the Balkan Wars 897

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY: A Plea for the More Systematic Employment of Treatment by Suggestion 897

ÆSCULAPIAN SOCIETY: Exhibition of Cases, &c. 898

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REVIEWS AND NOTICES OF BOOKS.

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Miscellaneous Volumes 901

Annales de Médecine 902

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NEW INVENTIONS.

An Intra-uterine Douche.—*(Illustrated)* 902

LEADING ARTICLES.

THE FABIAN SOCIETY AND THE NATIONAL INSURANCE ACT 903

EYES FOR THE BLIND 904

THE ELECTION TO THE COUNCIL OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND 905

ANNOTATIONS.

Infant Mortality and the Welfare of Infancy 906
Tone in Relation to Shock 906
Coördination of the Treatment of Mental Defect in London 907
The Passing of the Doctrine of Aërial Infection 907
Nephropexy for Movable Kidney 908
Tropical Sanitation and Hygiene 908
Tuberculosis in the Necropsies of Children 909
The Value of the Spleen Rate in Malarious Districts 909
Epithelioma of the Tongue in a Woman 910
Reversed Action of the Heart 910
Recovery from Malarial Coma 910
The Future of Dental Education 911
The Action of the Digitalis Bodies 911
Royal Commission on Sewage Disposal 911
Chalarosis: a new Human Mycosis 911

PUBLIC HEALTH.

Reports of School Medical Officers 916

VITAL STATISTICS:
Health of English Towns 917
Health of Scotch Towns 917
Health of Irish Towns 917
Analysis of Sickness and Mortality Statistics in London during February, 1914 918
Vital Statistics of London during February, 1914 919

SPECIAL ARTICLES.

Surgeon-General Gorgas and the Panama Canal: The Complimentary Dinner to Surgeon-General Gorgas 912
Medicine and the Law 914
February at Home and Abroad 915
Royal Commission on Venereal Diseases 915
The Services 919
Medical Practice under the Insurance Act. XL.—London: Mainly Non-Panel Views.—*(To be continued)* 921

HOME AND FOREIGN NOTES. (FROM OUR OWN CORRESPONDENTS.)

Liverpool 923
Scotland 923
Ireland 924
Paris 925
Berlin 926
Constantinople 927
United States of America 927
South Africa 928

THE NATIONAL INSURANCE ACT.

Conference of Local Medical and Panel Committees 936
The Panel Committee for London 936
Local Medical Committee for London 936
Glasgow Burgh Insurance Committee 936

CORRESPONDENCE.

The Dependence of Arthropathy on Nerve Influence (Dr. P. W. Latham) 930
The Ductless Glands (Major Robert McCarrison, I.M.S.) 931
Cooking and Vitamines (Prof. W. D. Halliburton) 931
Acute Suppurative Otitis Media in Scarlet Fever (Dr. F. Foord Caiger) 932
Syphilis and "Mental Deficiency" (Dr. K. Fraser and Dr. H. Ferguson Watson) 932
Changes in the Blood in Surgical Shock (Dr. John D. Malcolm) 933
Cholesterol Antigen in Wassermann's Reaction (Mr. J. E. R. McDonagh) 933
The National Institute for the Blind (Mr. C. Arthur Pearson) 934
A National Medical Service (Dr. Lauriston E. Shaw) 934
The Milward Fund: a Letter of Thanks (Mrs. E. S. Dorothy Milward) 935
An Association of Tuberculosis Medical Officers 935

OBITUARY.

Francis Henry Hawkins, M.D., C.M. Edin., M.R.C.P. Lond. 929

MEDICAL NEWS.

The General Hospital, Birmingham 902
Birmingham Children's Hospital 916
Queen Victoria's Institute for Nurses 922
A Radium Fund for Portsmouth 922
National Society of Day Nurseries 929
Central Midwives Board 929
Victoria Hospital, Frome 935
Conferences in Electrology, Radiology, and Radium 936
Pass-lists of the University of Sheffield; Victoria University of Manchester; and the University of Durham (Faculty of Medicine) 937
University of Oxford 937
Royal Sanitary Institute 937
West Cornwall Infirmary, Penzance 937
Association of Assistant Medical Officers of Asylums 937
Mount Vernon Hospital 937
School Medical Service Group of the Society of Medical Officers of Health 937
Society for the Study of Inebriety 937
Presentation to Medical Practitioners 937
Donations and Bequests 937
Irish Medical Schools' and Graduates' Association 937

PARLIAMENTARY INTELLIGENCE.

Notes on Current Topics 938
House of Commons 938

Appointments 940
Vacancies 941
Births, Marriages, and Deaths 942
Notes, Short Comments, and Answers to Correspondents 942
Meteorological Readings 944
Medical Diary 944
Acknowledgment of Communications received 946

FOR INDEX TO ADVERTISEMENTS SEE PAGES 2 & 4.

INDEX

MEDICAL AND OTHER BOOKS AND PUBLICATIONS

ARNOLD:— PAGE
Bolton .... Ulcer of the Stomach 6
Collis, Sir J. Malingering 6
Cowan .... Diseases of the Heart 6
Howard .. Practice of Surgery .. 6
Leftwich .. Treatment 6
Sibley ..... Treatment of Diseases of the Skin .. Cover 1
Silk ..... Modern Anæsthetics. 6

BAILLIERE, TINDALL & COX:—
Bigg .... Indigestion, &c. ... 8
Blumfeld .. Anæsthetics .. Cover 1
Clarke, E. .. Errors of Accommodation, &c. .. Cover 1
Da Costa .. Sleeping Sickness Cover 1
Findley .... Diseases of Women .. 3
Fitzwilliams Operative Surgery .. 3
Freyer .... Enlargement of the Prostate 8
" .... Surgical Diseases of the Urinary Organs 8
Hudson .... Aids to Medicine Cover 1
Jones ..... Psycho-Analysis 3
Kraepelin.. Clinical Psychiatry .. 2
Lamb ..... Throat, Nose, and Ear 3
McCaw .... Diseases of Children 3
McKisack.. Systematic Case-Taking 3
Morison .... Disorders of Heart .. 5
Mummery .. Diseases of Rectum and Anus .. Cover 1
Thorne .... Nauheim Treatment of Diseases of the Heart..... Cover 1
Tibbles .... Foods 3
Vulpius .... Infantile Paralysis .. 3

CAMBRIDGE UNIVERSITY PRESS: PAGE
Barcroft .. Respiratory Function of the Blood. Cover 1

CASSELL & CO:—
Bruce ..... Materia Medica, &c.. 9
Candy ..... Manual of Physics .. 9
Hutchinson, Sir J. .... Syphilis 9
Hutchison & Rainy .... Clinical Methods 9
Luff & Candy .... Manual of Chemistry 9
Marsh ..... Diseases of Joints, &c. 9
Morris, Sir M.. Diseases of the Skin.. 9
System of Surgery..... 9
Walker .... Genito-Urinary Organs..... 9
Whitelegge & Newman . Hygiene, &c..... 9

CHURCHILL, J. & A.:—
Cripps .... Cancer of the Rectum 8
" .... Diseases of Rectum.. 8
Edwards .. Diseases of Rectum, &c. ..... Cover 1
Thorne, Besly .... Schott Nauheim Treatment of Heart 8

FROWDE AND HODDER & STOUGHTON:—
Jamieson .. The Care of the Skin in Health.... Cover 1

HUMPHREY MILFORD:—
Berkart .... On Bronchial Asthma Cover 1

LEWIS:—
Bruce ..... A System of Radiography 8
Buxton .... Anæsthetics 5

LEWIS—(Continued). PAGE
Less ..... Incipient Pulmonary Tuberculosis 5
Lewis's Medical Ledger..... 5
Lewis's Pocket Case Book 5
Ostrom .... Massage 8
Paget ..... For & Against Experiments on Animals.. 5
Starr ..... Hygiene of Nursery.. 5

LONGMANS, GREEN & CO.:—
Hare ..... Food Factor in Disease ..... Cover 1
Herschell & Abrahams Chronic Colitis Cover 1

MACMILLAN & CO.:—
Adami & McCrae .. Text-Book of Pathology 7
Ballance .. Cerebral Decompression in Ordinary Practice 8
Eastman .. Palæontology 7
Houston .. Water Supply .. 7
Mercier .... Astrology in Medicine 7
New System of Medicine 7
Paton ..... Nervous & Chemical Regulators of Metabolism 7

MEDICAL PUBLISHING CO.:—
Lane, Sir W. A.. Operative Treatment of Fractures 10
" Cleft Palate, &c..... 10

MILLS & BOON:—
Ash ..... How to Treat by Suggestion ..... Cover 1

MURRAY:—
Brunton, Sir L. .... Therapeutics of the Circulation 10

NISBET & CO.:— PAGE
Lane, Sir W. A.. Treatment of Chronic Constipation 10
Romer & Creasy .. Bonesetting and the Treatment of Painful Joints.... Cover 1

PRESBYTERIAN BOOK STORE DISTRIBUTORS:—
Faulkner .. Tonsils & the Voice.. 10

UNIVERSITY OF LONDON PRESS:
Bidwell .... Minor Surgery 6
Biggs ..... Ear, Nose, & Throat.. 8
Cole ..... Mental Diseases 8
Turner & Carling .. Treatment after Operation 8

WRIGHT & SONS (Bristol):—
Index of Differential Diagnosis of Main Symptoms ..... Cover 1
Smith..... Lateral Spinal Curvature and Flat Foot Cover 1
The Medical Annual, 1914..... 8

MEDICAL LIBRARIES, &c.:—
Behnke—Stammering 10
Ketley—Stammering 10
Matthews Bros.—Wood: Application of Trusses 10
Squire & Sons—Squire's Companion..... 34
" London Hospitals 36

OFFICIAL AND GENERAL ANNOUNCEMENTS

APPOINTMENTS VACANT:— PAGE
Addenbrooke's Hosp., Cambridge. 78
Albert Dock Hospital..... 75
Beckett Hospital and Dispensary, Barnsley 75
Bedford County Hospital..... 75
Bedwelty Union 76
Belgrave Hospital for Children, Clapham-road 80
Bethlem Hospital..... 76
Birkenhead Union 76
Birmingham Union—Dudley-road Infirmary 79
Birmingham and Midland Free Hospital for Sick Children 80
Bolingbroke Hosp., Wandsworth Common 76
Borough of East Ham Education Committee 81
Borough of Portsmouth 78
Bradford Children's Hospital 79
Bradford Union—Eastby Sanatorium 80
Bridgwater Hospital 74
Brighton Throat and Ear Hospital 79
Bristol Royal Hospital for Sick Children 80
Bristol Royal Infirmary 75
Bury Infirmary 76
Cancer Hospital, Fulham road.... 76
Carlisle Non-Provident Dispensary 77
Chelsea Hospital for Women..... 80
Cheshire County Asylum, Macclesfield 76
Chesterfield and North Derbyshire Hospital 78
City of Birmingham Education Committee 77
Convalescent Hospital, Cheadle .. 78
Corporation of Newcastle-upon-Tyne City Hospital for Infectious Diseases..... 79
County Asylum, Prestwich 79
County Asylum, Whittingham 75
Croydon General Hospital..... 79
Cumberland and Westmorland Asylum, Carlisle 80
Darlington Hospital and Dispensary 75
Derby County Asylum, Mickleover 75
Dewsbury and District General Infirmary 80
Dreadnought Hospital, Greenwich 75
Dumfries and Galloway Royal Infirmary 80
Dundee Maternity Hospital..... 80
East Sussex Hospital, Hastings .. 75
Gloucestershire Royal Infirmary and Eye Institution 75
Gravesend Hospital..... 79
Great Yarmouth Hospital 76
Hampstead General and North-West London Hospital .. 80
Hawkhead Asylum, Glasgow..... 81
Hospital for Sick Children, Great Ormond-street..... 79
Hospital for Sick Children, Newcastle-upon-Tyne 79
Huddersfield Royal Infirmary 80

APPOINTMENTS—(Continued). PAGE
Imperial Bacteriological Laboratory, Muktesar 75
Itallan Hospital, Queen-square .. 80
Kent County Asylum, Maidstone.. 76
Kettering and District General Hospital 77
King Edward Memorial Hospital, Ealing 79
Leicester Royal Infirmary 75
Manchester Children's Hospital .. 80
Manchester Northern Hospital for Women and Children 77
Middlesex County Asylum, St. Albans 80
National Sanatorium, Benenden.. 75
Newark upon Trent Hospital 79
North Lonsdale Hospital, Barrow-in-Furness 76
Paddington Green Children's Hos. 80
Parish of Roussay and Eglishay.... 80
Parish of St. Giles, Camberwell .. 78
Parish of St. Marylebone 79
Prince of Wales's General Hosp., Tottenham 80
Queen Alexandra Sanatorium, Davos Platz 78
Queen's Hospital for Children 77
Rochdale Infirmary 76
Rotherham Hospital 76
Royal Albert Hospital, Devonport 77
Royal Albert Edward Infirmary and Dispensary, Wigan 74
Royal Free Hos., Gray's Inn-road. 77
Royal Halifax Infirmary 76
Royal Hospital for Diseases of the Chest, City-road..... 79
Royal Infirmary, Hull 79
Royal Infirmary, Sheffield 75
Royal Infirmary, Sunderland..... 78
Royal Isle of Wight County Hosp. 77
Royal South Hants and Southampton Hospital 78
Royal Surrey County Hospital, Guildford 80
Royal United Hospital, Bath..... 74
Royal Victoria Hosp., Folkestone 76
Royal Victoria and W. Hants Hos. 81
St. Mark's Hospital for Cancer .. 79
St. Paul's Hospital for Skin and Genito-Urinary Diseases 80
Salford Royal Hospital..... 78
Salisbury Infirmary 75
Scalebor Park Asylum 75
Scarborough Hospital and Dispensary 75
Severalls Asylum, Colchester 77
South-East Essex United Districts 78
Southwark Union Infirmary 78
Sunderland Borough Asylum 78
Surrey County Council 76
Township of Toxteth Park Workhouse, &c. 78
University of Liverpool Faculty of Medicine..... 77
Victoria Memorial Jewish Hosp., Manchester 80
Walsall and District Hospital 78
West End Hospital for Diseases of the Nervous System 80

APPOINTMENTS—(Continued). PAGE
West London Hospital, Hammersmith-road 78
West Sussex County Mental Hospital, Chichester 77
Wilts County Council..... 78
Wolverhampton and Midland Counties Eye Infirmary 77
Wolverhampton and Staffordshire General Hospital 77
York County Hospital 81

ASSISTANCIES, MEDICAL..... 81

ASYLUMS, HOMES, &c.:—
Ashwood House, Kingswinford .. 67
Association of Medical Men Receiving Resident Patients 74
Barnsley Hall, Bromsgrove..... 67
Barnwood House Hospital 66
Bishopstone House, Bedford..... 67
Bootham Park, York 67
Broadlands, Medstead..... 74
Brunton House, Lancaster..... 74
Buntingford House Retreat, Buntingford..... 71
Camberwell House, Peckham-road 69
Cheadle Royal..... 66
City of London Mental Hospital, Stone..... 74
Clarence Lodge, Clapham-park .. 67
Colthurst House, Alderley Edge .. 66
Coppice, The, Nottingham 66
Cressy, Windlesham 74
Dalrymple House, Rickmansworth 70
Dartmoor Sanatorium 72
David Lewis Colony, Alderley Edge 67
Duff House, Banff..... 71
Elliot, Southwell 74
Farnham House, Dublin 70
Ghyllwoods 70
Grove House, Church Stretton 66
Grove, The, Catton, Norwich..... 66
Haslemere Nursing Home 74
Haydock Lodge, Newton-le-Willows 69
Haynes, Brentwood 74
Heigham Hall, Norwich 67
Home for Epileptics, Maghull 65
Invernith Sanatorium, Colinsburgh 70
Kingsdown House, Box 67
London County Lunatic Asylum, Claybury..... 74
London Fever Hospital..... 66
London Sanatorium..... 70
Maison de Santé de Glain-les-Liége (Belgium) 67
Maisonette, Hindhead 74
Mailing Place, Kent 68
Manna Mead, Blackheath 74
Maryville, Dublin 70
Melbourne House, Leicester 70
Mendip Hills Sanatorium 72
Middleton Hall, Co. Durham..... 67
Moat House, Tamworth 66
Newmains Retreat, Lanarkshire.. 70
Nordrasch-on-Dee, Bunchory 72
Northumberland House, Finsbury Park 70

ASYLUMS—(Continued). PAGE
Northwoods House, Winterbourne 69
Norwood Sanatorium, Ltd..... 71
No. 815, L.O., Strand 74
No. 849, L.O., Strand 63
Osea Island, Heybridge..... 71
Peckham House..... 70
Pendyffryn Hall Sanatorium, Nordrach-in-Wales 71
Plympton House, Plymptos 66
Portsmouth Corporation Mental Hospital 67
Rona Electrical and Medical Nursing Home 74
Ruebury Sanatorium, Northallerton 66
St. Andrew's Hospital, Dollis Hill 74
St. Andrew's Hosp., Northampton 68
St. Luke's Hospital for Mental Diseases 67
Shaftesbury House, Formby-by-the-Sea 69
Springfield House Private Asylum, Bedford 68
Stretton House, Church Stretton.. 68
The General Manager, Craven-st.. 74
The Grange, near Rotherham 66
Vale of Clwyd Sanatorium 72
Warneford Asylum, Oxford..... 67
Wye House, Buxton..... 68
Yarrow Convalescent Home, Broadstairs 69
Zander Institute 69

FINANCIAL, &c.:—
Equitable Reversionary Interest Society..... 64
Union Trust Co., Ltd. (of Canada) 47

HEALTH RESORTS, BATHS, &c.:—
Bad Homburg 73
Baden-Baden 75
Felixstowe..... 46
Harrogate Hydropathic Establishment 66
Leysin, Switzerland..... 73
Peebles Hotel Hydropathic 63
Smedley's, Matlock 66
Woodhall Spa 74

HOTELS:—
Hotel Windsor 72
Knowle Hotel, Sidmouth 72

HOUSE & ESTATE AGENTS:—
Hankinson & Son, Bournemouth.. 82
Leigham Court Estate Office, Streatham Hill 82
Ley Clark, Wimpole-street 82
No. 85½, L.O., Strand 82
Saunders & Taylor, Brentford 82

LIFE & FIRE ASSURANCES, &c.:—
Prudential..... 64

MASSAGE:—
Associated Male Nurses and Masseurs 65
London School of Massage 65

MEDICAL ACCOUNTANTS, &c.:—
Turner..... 82

For continuation of Index to Official and General Announcements, and Trade and Miscellaneous Advertisements, see page 4.

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INDEX—(CONTINUED).

PAGE

MEDICAL AGENTS:—
Fieldhall, Limited ... 85
Johnson ... 83
Manchester Clerical, &c., Assoc. ... 83
Medical Agency ... 83
Moore & Co. ... 81
Needes, Herbert ... 85
Needes, J. C. ... 83
Peacock & Hadley ... 85
Scholastic, Clerical, &c., Association ... 84
Turner ... 85

MEDICAL SCHOOLS:—
(LONDON.)
Hospital for Sick Children—Medical School ... 62
London Hospital Medical College and Dental School ... 62
London School of Clinical Medicine ... 61
St. Mary's Hospital Medical School 62
West London Post-Graduate Coll.. 61

PAGE

NURSING INSTITUTES:—
Co-operation of Temperance Male and Female Nurses ... 66
General Nursing Association ... 64
Hospital for Sick Children, Great Ormond-street ... 65
Leeds Trained Nurses' Institution 64
London Nurses' Association ... 64
London Temperance Male and Female Nurses Co-operation ... 65
Male Nurses Temperance Co-operation ... 65
Mental Nurses' Co-operation ... 65
Nurses' Co-operation, Portland-place ... 64
St. John's House ... 65
St. Luke's Hospital ... 64
Temperance Association of Male Nurses, Ltd. ... 65
Temperance Male Nurses Co-operation ... 66
Temperance Male and Female Nurses Co-operation ...
The Retreat, York ... 64

PAGE

OFFICIAL NOTICES:—
Central London Throat, Nose and Ear Hospital ... 62
City of London Lying-in Hospital ... 62
Imperial College of Science and Technology ... 61
London Hospital ... 61
London Lock Hospital ... 62
London School of Tropical Medicine ... 61
North-East London Post-Graduate College ... 64
Practical Course on Tuberculosis.. 63
Queen Charlotte's Lying-in Hospital ... 62
Royal Society of Medicine.. Cover i
Royal Surgical Aid Society ... 61
Tancred's Studentships ... 61
Throat Hospital, Golden-square .. 62
University of Cambridge ... 63
University of Durham College of Medicine, Newcastle-upon-Tyne. 63
University of Edinburgh ... 63

PAGE

OFFICIAL NOTICES—(Continued).
West End Hospital for Diseases of Nervous System ... 62
York-road General Lying-in Hospital, Lambeth ... 62

PARTNERSHIPS & PRACTICES 63

RAILWAY & STEAMSHIP CO.'S:—
New Zealand Shipping Co. ... 64

SCHOOLS, PREPARATORY, &c.:—
Agricultural College, Aspatria 66
British and Foreign Schools Agency, Manchester ... 64

TUTORS & LECTURERS:—
Gemmell .... 64 | No. 448, L.O... 85
Med. Corres. College .... 64 | Schnelle 12
Weymouth .. 62

TRADE AND MISCELLANEOUS ADVERTISEMENTS

AMBULANCES:—
St. John Ambulance—Invalid Carriages ... 15

BOTTLE MERCHANTS:—
Isaacs ... 15

CARRIAGES, MOTORS, &c.:—
Armstrong—Coachmen's, Grooms', and Chauffeurs' Liveries ... 15
Bollerine, Ltd.—Bollerine Radiator Tablets.... 15
Clement Motor Co.—Clement Car ... 17
Clement Talbot, Limited—Invincible Talbot ... 16
Dunlop Rubber Co., Ltd.—Dunlop Tyres ... 16
Morgan & Co.—Morgan Adler Carette ... 15
Oakland Motor Co.—Oakland Motor Car ... 17
Studebaker, Ltd.—Studebaker "Four" ... 19
" "Six" ... 19
United Motorists Co-operative Supply ... 15

CHEMISTS & DRUGGISTS:—
Allen & Hanburys—Antitoxins, &c. ... 38
Byno Hypophosphites ... 30
Castor Oil ... 53
Angier Chemical Co.—Angier's Emulsion ... 32
Armbrecht, Nelson & Co.—Radium Emanation Water 56
Bayer Co., Ltd., and E. Merck—Luminol ... 28
Luminol-Sodium ... 28
Veronal-Sodium ... 28
Benger's Food, Ltd.—Pepsine Pills ... 31
Bishop, Ltd.—Hydropyrin ... 28
British Oxygen Co.—Oxygen ... 53
Bullock & Co.—Pepsina Porci ... 54
Acid Glycerine of Pepsine 54
Burroughs Wellcome & Co.—Vaporole Infundin..... Cover iv
Wellcome Tuberculine ... 43
Christy & Co.—Glyco-Thymoline ... 30
Glyco-Heroin ... 55
Clay, Paget & Co.—Glycolactophos ... 34
Cook & Co.—Solace Shaving Soap .. Cover ii
Duncan, Flockhart & Co.—Chloroform, Ethers, &c..... 35
Escolent Compounds, Ltd.—Escolent Compound ... 29
" Powder ... 29
" Soap ... 29
Evans Sons Lescher & Webb—Capsul. Ol. Santal. Flav. 34
Bacteriological and Clinical Diagnosis ... 34
Hypotubes ... 34
Algiron ... 34
Fellows—Syrupus Hypophosphitum 28

CHEMISTS—(Continued).
Gale & Co., Ltd.—Elixir Cresolis c. Heroin Co. .. 55
" Pruni Sedat. ... 55
Linctus Tussi ... 55
Syrup. Creosoti Lactophosph. Co. ... 55
Grant—Varonidia ... 53
Grillon—Tamar Indien Grillon..... 56
Hewlett & Son—Mist. Hepatica Cone. ... 25
Hogg & Son—Protein Nerve Food..... 56
Hudson's Eumenthol Chemical Co.—Eumenthol Jujubes ... 52
Kutnow & Co.—Kutnow's Powder ... 42
Macfarlan & Co.—Chloroform, &c. ... 54
Maltine Manufacturing Co.—Maltine with Cod Liver Oil 44
" with Creosote ... 41
Malto-Yerbine ... 41
Maltona Wine Co.—Maltona Tonic Wine ... 38
Merck—Perhydrol ... 56
Parke, Davis & Co.—Trustworthy Serums ... 37
Raimes & Co.—Slinger's Nutrient Suppositories ... 58
Saccharin Corporation, Ltd.—Dianalt ... 47
Novocain ... 47
Trivalin ... 47
Tulloch's Alloys ... 47
Saccharin ... 47
Smith & Co.—Hall's Wine ... 14
Squire & Sons—Ferocal ... 38
Glyphocal ... 36
Sterilettes ... 38
Inj. Ferri Arsen. Solub..... 36
Tidman's Sea Salt ... 53
Waterbury Chemical Company—Cod Liver Oil Compound 54
Pinozyme ... 54
Welford & Sons—Sauermilch ... 56
Willows, Francis, Butler & Thompson, Ltd.—Mackey's Glyceroles ... 24
Wulfing & Co.—Formamint ... 33
Sanatogen ... 45
Zimmermann, A. & M.—Schering's Hegonon... 28
Schering's Hormonal ... 28
Sperminum-Poehl ... 25
Pellidol ... 58
Zimmermann & Co.—Radiogen ... 46
" Emanatorium 46

DISINFECTANTS:—
Allen & Hanburys Medical Ical ... 40
Condy's Fluid ... 52
Quibell Bros., Ltd.—Kerol ... 55
" Capsules ... 55
Zimmermann & Co.—Lysol ... 54

ENGRAVERS (NAME PLATES) &c.—
Cooke & Co.—Brass Name Plates and Lamps 30
Osborne & Co.—Brass Door Plates ... 13

FOODS:—
Aylesbury Dairy Co.—Humanized Milk ... 57
Benger's Food, Ltd.—Essence of Rennet ... 31
Pancreatised Lentil Flour 31
Blatchley's Diabetic Preparations 30
Casein Limited—Secwa ... 58
Maconochie Bros.—Pan Yan Pickle ... 57
Manhu Food Co.—Manhu Diabetic Foods ... 58
Mellin's Food, Ltd.—Mellin's Food ... 50
" " Biscuits ... 50
" " Lacto ... 50
Nestlé's Swiss Milk ... Cover iii
Peter's Swiss Milk Chocolate..... 27
Valentine's Meat Juice Co.—Meat Juice..... Cover ii
Van Abbot & Sons—Foods for Diabetics and Obesity 58

FURNITURE, &c.:—
Carter—Surcar Mechanical Bedstead .. 20

HOSPITALS (ISOLATION):—
Boulton & Paul, Ltd.—Revolving Shelters ... 12

MED. & SURG. APPLIANCES:—
Bailey & Son—Patent Belts, Trusses, and Elastic Stockings ... 20
Cocking—Adaptable Poro Plastic Jackets and Splints ... 11
Davis—Sakeus Sterile Catgut 11
Down Bros., Ltd.—New Operation Table ... 21
Galen Mnfg. Co.—"Durana-White" Plaster 59
Hawksley & Sons—Knee Trusses ... 60
Holland & Son—Patent Instep Supports 59
Millikin & Lawley—Osteology, &c. ... 12
Morison & Stephens—Isomar Abdominal Belts, &c... 23
Noelle—Dr. Dettweiler's Spitting Flasks ... 59
Robinson & Sons—Capsicum Gamgee Tissue 15
Scholl Mfg. Co., Ltd.—Bunion Appliances ... 22
Teske, Ltd.—The Standard Auscultation Set 12
Timpson & Co.—Canthos Blister Plaster..... 60

MINERAL WATERS:—
Apollinaris Co.—Apenta 49
Canwal, Ltd.—Aerated Lithia Water..... 58
Davis—Hercules Water 58
Evian-Cachat Agency—Evian-Cachat Water 49
Ingram & Royle—Giesshübler Mineral Water.... 14
Vichy-Célestins 51
Royal Fachingen Natural Mineral Waters 57
Rubinat-Llorach 61
Vittel—Vittel Grande Source..... 58

SANITARY APPLIANCES, &c.:—
Aymard Patent Milk Steriliser Co.—Aymard Milk Steriliser..... 13

STATIONERY, &c.:—
Burge, Warren & Ridgley—The "Compacto" Style 12

TAILORS, BOOTMAKERS, &c.:—
Dowie & Marshall—Hygienic Bootmakers..... 36
Evans & Co.—Regent Morning Coat..... 59
Holden Brothers—Natureform Boots, &c. 53
Miller—Dress Suit, &c. 11

TOBACCO, CIGARS, &c.:—
Player & Sons—Perfectos Cigarettes 50

TYPEWRITING, &c.:—
Taylor's Typewriters 59

VACCINE LYMPH:—
Dr. Poondorf's Dry Vaccine 13
Jenner Institute for Calf Lymph.. 13
Renner's Calf Lymph Establishment 13
Roberts & Co.—Chaumier's Calf Lymph 13

WINES, BEER, SPIRITS, &c.:—
Ackerman-Laurance—Brut-Royal 57
Dunville's Irish Whisky 48
Finsbury Distillery Co.—Wolfe's Schnapps 50

X-RAY, &c., APPARATUS:—
Sanitas Electrical Co.—Ionic Medication 22

MISCELLANEOUS:—
British Thomson Houston Co.—Masda Drawn Wire Electric Lamps 13
Stuart Menzies, Limmister—Sleeping Shelter..... 82

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Hunterian Lecture

ON

THE PHYSIOLOGY AND PATHOLOGY OF UTERINE HÆMORRHAGE.

Delivered before the Royal College of Surgeons of England on Feb. 13th, 1914,

BY H. BECKWITH WHITEHOUSE, M.B., M.S. LOND., F.R.C.S. ENG.,

HUNTERIAN PROFESSOR, ROYAL COLLEGE OF SURGEONS, ENGLAND; HONORARY ASSISTANT GYNÆCOLOGIST AND ASSISTANT CLINICAL LECTURER ON DISEASES OF WOMEN, GENERAL HOSPITAL, BIRMINGHAM, ETC.

(*With Illustrative Plates.*)

MR. PRESIDENT, LADIES, AND GENTLEMEN,—My first pleasant duty is to thank you for the honour you have conferred upon me in appointing me one of your Hunterian professors for the current year.

INTRODUCTION.

In selecting Uterine Hæmorrhage as the subject of this lecture I have been guided mainly by two factors. In the first place, it affords me the opportunity of placing before you the results of some researches in which I have been engaged. Secondly, the present appears to be an appropriate time for discussing some of the older views upon uterine bleeding based principally upon clinical observation, in the light of that more exact knowledge which scientific study and laboratory experiment have placed at our disposal.

John Hunter himself was much interested in the phenomena associated with the blood and its coagulation, as is shown by the publication in 1792 of his "Treatise on the Blood." This fact in itself provides another very good reason why we should choose that organ of the body where hæmorrhage is not only a pathological but a physiological function to form the basis of a lecture founded in his memory.

Uterine hæmorrhage, however, in all its varied aspects is far too large a question to take up in the time at my disposal. I propose, therefore, to limit remarks upon pathological bleeding to its incidence apart from pregnancy and uterine neoplasms. Such hæmorrhage is sometimes termed idiopathic, to denote the absence of gross physical signs. A clear understanding of the facts underlying pathological bleeding must rest upon a true interpretation of the phenomena associated with physiological hæmorrhage, and therefore the first portion of the lecture is devoted to facts concerned with the etiology and physiology of the function known as menstruation.

PHYSIOLOGICAL UTERINE HÆMORRHAGE.

The Relation of Menstruation to Pro-œstrum.

Matthews Duncan once observed that "menstruation is like the red flag outside an auction sale. It shows that something is going on inside." This is obviously true, but we may pause to ask whether such bleeding is physiologically necessary to the sexual economy. A comparative study of the mammalia shows that uterine hæmorrhage is by no means an essential but merely a concomitant of the sexual cycle and is associated with those anatomical changes to which Heape has applied the name of pro-œstrum. There is abundant evidence that a phenomenon in all essentials identical with menstruation in the human female occurs in the case of the lower mammals. Attention was first drawn to the similarity between menstruation and pro-œstrum by Wiltshire in 1883. More recently the excellent work of Heape and Marshall and Jolly have confirmed the views originally set forth.

It is not my wish to go into detail upon this subject, which has been so admirably treated by other workers. It is sufficient to point out that in most animals the stage of pro-œstrum is marked by the presence of a discharge from the generative canal. In some, such as the rabbit and the rat, this discharge consists simply of the secretion of the uterine glands with a small quantity of degenerated epithelium. In others, of which the cow, mare, sheep, goat, pig, and cat are examples, this discharge is occasionally mixed with blood. Domesticity and high breeding tend to increase both the frequency of the sexual cycles and the amount of the attendant bleeding. Thus, in the bitch a well-marked hæmorrhagic discharge is almost invariably present during pro-œstrum, and the blood is as concentrated as that recorded for monkeys. In works upon veterinary science numerous references both to physiological and pathological bleeding in the case of animals are to be found. Fleming, for example, observes that in the case of the cow "the hæmorrhagic flow appears two or three days after the commencement of rutting. The amount of blood does not exceed one or two ounces, and the coagulated clot remains in the vagina until it is expelled with the urine."

In the case of the primates the recognition of a regular and periodical menstrual discharge is of great antiquity. In fact, it is recorded by Dr. Mead that the ancient Egyptians painted the cynocephalus to represent the moon "upon account of a certain sympathy whereby the female of this animal has evacuations of blood from the uterus at the new and full moon." The subject of menstruation in the higher apes has been fully investigated by Heape, and his researches prove clearly that the pro-œstrum of primates is identical in kind with that of other mammals and is analogous to menstruation in the human female. The differences observed in individual species are only one of degree, relating either to occasional or regular rupture of vessels in the uterine mucosa, and partial or complete denudation of the latter. A comparative study of pro-œstrum from the lowest to the highest mammals shows a progressive development until in the primates and the human female the function reaches its highest state of development. Periodical uterine hæmorrhage is, in fact, one of the sacrifices which women must offer at the altar of evolution and civilisation.

The Menstrual Clot.

A study of the changes through which the uterus passes at each pro-œstrum reveals the interesting fact that in the great majority of those animals where this stage is characterised by a flow of blood from the endometrium, a definite and well-marked clot is formed in the body of the uterus. In fact, Heape, in his classification of the internal phenomena of pro-œstrum, accords the formation of the menstrual clot a definite place as one of the essential stages. In the case of the monkey he observes that "with the blood which is poured out from the ruptured lacunæ is mixed always degenerated epithelial cells, together with stroma tissue and the superficial portion of the uterine glands, the whole forming a more or less dense clot which

in some cases entirely fills the uterine cavity. During the period of recuperation this clot is expelled." This is the case also in lemurs, but in the bitch no blood clot is formed. The physiological phenomena and anatomical appearances of the endometrium during pro-œstrum in the latter animal have been investigated in detail by Retterer, who notes that extravasation of blood in the mucosa occurs, but there is no denudation of the epithelium. It is a point of some interest, therefore, that a clot occurs where there is destruction of epithelium, or, in other words, where a definite breach of surface exists.

Menstrual Discharge in the Human Female.

As is well known, the normal menstrual discharge when it escapes from the vulva is a dark-red fluid containing epithelial débris, degenerate uterine glands, and leucocytes. It is usually stated that the blood does not clot. By some this is supposed to be due to dilution with the uterine and cervical secretions. It has also been stated that the mucous secretion from the cervix is the cause of the non-coagulation of the menstrual blood. In 1912 Blair Bell published a detailed analysis of retained menstrual fluid obtained from 12 cases of hæmatocolpos. In this material he found that fibrinogen and fibrin were absent, and therefore attributed the non-coagulation of menstrual blood to the absence of these constituents. On the other hand, in August, 1913, in a paper read before the Seventeenth International Congress of Medicine, J. Riddle Goffe attempted to show that the absence of coagulation was due to the presence of antithrombin in the menstrual blood. It is evident, therefore, that, although the fact of non-coagulation has been accepted, opinions are divided as to its causation.

A fluid similar in general appearance to that contained in hæmatocolpos is the coffee-coloured content of ovarian blood cysts. I therefore had a similar analysis made upon this material, and found that both fibrinogen and fibrin were again absent. A hæmoglobin derivative and very degenerated red cells were present, showing that the material primarily contained blood. A striking difference between the two fluids was the entire absence of calcium salts in the contents of the blood cyst and the superabundance of the same in hæmatocolpos fluid, as shown by Blair Bell. In the contents of an ovarian blood cyst that I recently investigated a small solid mass was present in the brown grumous fluid. This was investigated for fibrin by Weigert's method of staining, and small traces of this substance were present. In the rest of the fluid fibrin was absent. I am therefore led to the proposition that in the living body an enzyme or substance of this nature exists which has the power of digesting fibrin and breaking down blood clot. I hope to show, moreover, that a similar body or "fibrinolysin" plays a very important rôle both in tbe physiology and pathology of uterine hæmorrhage.

Since the formation of a menstrual clot is such a usual and common phenomenon amongst other species of mammalia, it was a matter of surprise to me that such should not be the case with the human female. The first investigation that I made, therefore, was to institute an inquiry amongst women as to the frequency with which they themselves had noted, at some time or other, the occurrence of clots or solid material in the normal menstrual discharge. The menstrual histories of 120 apparently healthy women were investigated, and of these 62 acknowledged that either occasionally or regularly they noted "clots" in the fluid. As a general rule these clots were minute, and unless a definite inquiry was made the fact was not observed by the patient, who casually observed that "the fluid did not clot." From this series, therefore, approximately 50 per cent. of women normally note the presence of clots in the menstrual discharge. The existence of these thrombi in the fluid proves that all the machinery for the coagulation of blood is complete.

It may not be out of place, in view of the remarks to follow, to state briefly the current views concerning the clotting of blood. Mellanby and Morawitz showed that normal blood plasma contains a globulin, fibrinogen, together with calcium salts and a substance of unknown composition designated prothrombin or thrombogen. The latter is in a condition of adsorption in the fibrinogen molecule. When blood leaves the vessels and is brought into direct contact with tissue cells it encounters a body known as thrombokinase. This substance, which varies in amount in different tissues, promotes the union of thrombogen and calcium salts to produce thrombin. The latter then exercises a quantitative action upon the fibrinogen, converting it into fibrin, the proteid which forms the organic basis of all clot. Excess of thrombin is inactivated by a hypothetical body called antithrombin normally circulating in healthy blood. It is obvious therefore that deficient or delayed coagulation may be produced by the individual absence of fibrinogen, prothrombin, calcium salts, thrombokinase, or excess of antithrombin.

An attempt to demonstrate the presence of excessive antithrombin in the non-menstruating and menstruating endometrium, and also in the menstrual fluid, failed in every case in a series of experiments which I undertook in conjunction with Dr. Gwynne Maitland, lecturer on physiology, University of Birmingham. The results of these experiments are detailed in Table I. and quite convinced us that excess of antithrombin is not the cause of non-coagulability of menstrual fluid.

The occurrence of a well-marked clot in each of these experiments points to the absence of any antithrombin either in the endometrium or its secretion. Menstrual blood in sufficient quantities for experimental purposes is readily obtained from the vagina by placing the blade of a Sims's duck-bill speculum into the posterior cul-de-sac of the vagina, the patient lying in the Sims's semi-prone position. From material thus collected I have been able to convince myself that, although small clots are not infrequently present in the discharge, in the majority of cases the material is quite fluid and in essential details coincides with the analysis given by Blair Bell in the case of hæmatocolpos fluid. The points to which particular attention is drawn are: (*a*) the absence of fibrin; (*b*) the usual absence of fibrinogen; (*c*) the high proportion of calcium salts; and (*d*) the large number of leucocytes and occasionally lymphocytes scattered amongst the degenerated cells of the uterine epithelium and glandular débris. Normal menstrual blood in the vagina is faintly alkaline, and gives the spectrum of oxyhæmoglobin. Hæmolysis is practically always present.

Material collected in the vagina, however, has very different characters from that taken directly from the uterus. In the first place, I venture to assert that *with the healthy and normal*

endometrium clotting always takes place within the uterine cavity. This fact became evident to me when attempting to obtain menstrual fluid unmixed with the secretion from the cervical glands. The technique employed was as follows. The patient was placed in the semi-prone position and the posterior vaginal wall retracted with the broad blade of a Sims's speculum. The anterior lip of the cervix was seized with volsellum forceps and the cervix sterilised by iodine. A glass catheter of the shape and size indicated in Fig. 1 was introduced through the cervical canal into the corpus uteri. Where hæmorrhage is in progress this is a procedure of the greatest ease, and if the periodic flow is well established blood flows slowly into the tube. Within a few seconds, however, the stream ceases and an examination of the tube shows that the lumen is blocked by blood clot. Altogether 30 cases of normal menstruation have been examined by this means, usually upon the second day of the period when the flow is greatest, and in every case thrombus has been present in greater or less amount in the uterine cavity. In only 8 of these cases could fibrin be demonstrated in the blood present in the vagina. These details are represented in tabular form in Table II.

TABLE I.—*Showing Results of Experiments undertaken to Ascertain Presence of Antithrombin in Menstrual Blood and the Endometrium.*

Series 1.

Experiment.	Curettings.	Human blood.	Coagulation.	Coagulation time.
	(Menstruating.)			
1	¼ vol.	1 c.c.	+	3 min.
2	¼ ,,	1 ,,	+	3½ ,,
3	½ ,,	1 ,,	+	2½ ,,
4	½ ,,	1 ,,	+	3 ,,
	(Non-menstruating.)			
5	¼ vol.	1 ,,	+	4 ,,
6	¼ ,,	1 ,,	+	3½ ,,
7	½ ,,	1 ,,	+	5 ,,
8	½ ,,	1 ,,	+	4 ,,
9	— Control.	2 ,,	+	5½ ,,
10	— ,,	2 ,,	+	5½ ,,

Series 2.

Experiment.	Filtrate from saline extract of endometrium.	Oxalate ox blood + $CaCl_2$.	Coagulation.	Coagulation time.
	(Human, menstruating.)			
1	2 vols.	1 c.c.	+	6 min.
2	Equal vol.	1 ,,	+	6 ,,
3	½ vol.	1 ,,	+	5½ ,,
	(Human, non-menstruating).			
4	2 vols.	1 ,,	+	6 ,,
5	Equal vol.	1 ,,	+	5½ ,,
6	½ vol.	1 ,,	+	5 ,,
7	— Control.	1 ,,	+	6 ,,
8	— ,,	1 ,,	+	6½ ,,

Series 3.

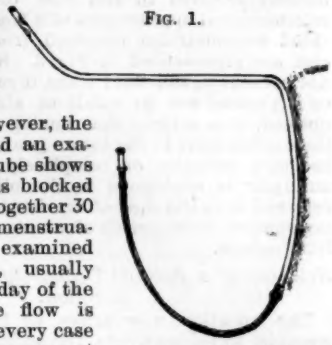
Experiment.	Extract of endometrium.	Human blood.	Coagulation.	Coagulation time.
	(Sheep.)			
1	1 c.c.	1 c.c.	+	6 min.
2	1 ,,	1 ,,	+	5½ ,,
3	2 ,,	1 ,,	+	3 ,,
4	2 ,,	1 ,,	+	4 ,,
5	— Control.	2 ,,	+	5 ,,
6	— ,,	2 ,,	+	5½ ,,

Series 4.

Experiment.	Menstrual blood. (Vaginal.)	Human blood.	Coagulation.	Coagulation time.
1	1 c.c.	1 c.c.	+	2½ min.
2	1 ,,	1 ,,	+	2 ,,
3	2 ,,	1 ,,	+	3 ,,
4	2 ,,	1 ,,	+	3½ ,,
	(Uterine.)			
5	1 ,,	1 ,,	+	2½ ,,
6	1 ,,	1 ,,	+	2½ ,,
7	2 ,,	1 ,,	+	3 ,,
8	2 ,,	1 ,,	+	2 ,,
9	— Control.	2 ,,	+	4½ ,,
10	— ,,	2 ,,	+	4 ,,

Material employed.—(*a*) Endometrium obtained by curettage during intermenstrual period; (*b*) ditto obtained during first and second days of period; (*c*) extracts of endometrium prepared from (*a*) and (*b*); (*d*) ditto prepared from animals (sheep); (*e*) menstrual blood collected from vagina and uterus.

FIG. 1.



Intra-uterine glass catheter for obtaining menstrual uterine secretion and blood directly from the uterine cavity. The catheter was made for me by Messrs. Philip Harris and Co., Birmingham.

TABLE II.—*Showing Incidence of Thrombi in Uterine and Vaginal Blood.*

Case.	Age.	Day of period.	Clot in utero.	Clot in vagina.
1	28	2nd	+	–
2	21	2nd	+	–
3	34	2nd	+	–
4	26	1st	+	–
5	25	2nd	+	+
6	42	2nd	+	–
7	39	2nd	+	–
8	29	1st	+	–
9	16	2nd	+	+
10	24	3rd	+	+
11	22	2nd	+	–
12	44	2nd	+	–
13	39	2nd	+	+
14	15	1st	+	–
15	18	2nd	+	+
16	40	2nd	+	+
17	41	2nd	+	+
18	25	1st	+	–
19	36	2nd	+	–
20	35	3rd	+	–
21	40	1st	+	–
22	26	2nd	+	–
23	24	2nd	+	–
24	29	2nd	+	–
25	37	2nd	+	–
26	33	2nd	+	–
27	28	3rd	+	+
28	19	2nd	+	–
29	28	1st	+	–
30	46	2nd	+	–

At first I attributed this unexpected finding to direct trauma of the endometrium, but the continued presence of thrombi in spite of increased care in obtaining the blood, and the employment of tubes previously immersed in liquid paraffin, has convinced me that the phenomenon is physiological

and a part of the menstrual cycle. In many cases the thrombus contains epithelial débris formed by breaking-down tissue from the endometrium, and so is analogous to the menstrual clot to which I have already referred in the case of primates. The microscopical appearances of a fragment of degenerated endometrium obtained from the menstrual clot are represented in Fig. 2. Since thrombi are not present in the fluid when it reaches the vagina, or if present are so small as almost to pass unnoticed, it is evident that during its passage from the corpus uteri to the lower genital passages fibrin becomes partially or completely dissolved. This autolysis is analogous to the phenomena I have referred to in the case of ovarian blood cysts, and in my opinion is the result of an enzyme of a fibrinolytic nature.

Evidence of a Specific Thrombolysin in the Uterine Secretion.

The question now arises as to whether it is possible to demonstrate the existence of such an enzyme by more conclusive tests. The experiments shown in Table III. were carried out with this in view. Menstrual blood collected from (*a*) the uterus and (*b*) the vagina was mixed in varied proportions with blood taken from the basilic vein. The coagulation time was noted and the tubes incubated at body temperature. The results are detailed as under:—

TABLE III.—*To show Thrombolytic Power of Menstrual Blood.*

Series 1. Menstrual Blood (Vaginal).

Experiment.	Venous blood.	Menstrual blood.	Coagulation time.	Clot resolved.	Time.
1	1 c.c. (auto).	1 c.c.	2 min.	Partial.	12 hours.
2	1 ,, (hetero).	1 ,,	2½ ,,	Complete.	12 ,,
3	1 ,, (auto).	2 ,,	3 ,,	,,	12 ,,
4	1 ,, (hetero).	2 ,,	4 ,,	,,	10 ,,
5	1 ,, (auto).	3 ,,	2½ ,,	,,	12 ,,
6	1 ,, (hetero).	3 ,,	3 ,,	,,	12 ,,
7	1 ,, (auto).	½ ,,	4 ,,	Partial.	24 ,,
8	1 ,, (hetero).	½ ,,	5 ,,	Complete.	24 ,,
9	1 ,, (auto).	½ ,,	5 ,,	Partial.	24 ,,
10	1 ,, (hetero).	½ ,,	4 ,,	,,	24 ,,
11	1 ,, (auto).	¼ ,,	4½ ,,	,,	24 ,,
12	1 ,, (hetero).	¼ ,,	3 ,,	,,	24 ,,
13	2 ,, Control.	—	5 ,,	*Nil.*	24 ,,
14	2 ,, ,,	—	5½ ,,	,,	24 ,,
	Series 2. Menstrual Blood (Uterine).				
1	1 c.c. (auto).	1 c.c.	2½ min.	Complete.	48 hours.
2	1 ,, (hetero).	1 ,,	2 ,,	,,	24 ,,
3	1 ,, (auto).	2 ,,	3 ,,	Partial.	24 ,,
4	1 ,, (hetero).	2 ,,	2½ ,,	Complete.	12 ,,
5	1 ,, (auto).	3 ,,	3 ,,	,,	12 ,,
6	1 ,, (hetero).	3 ,,	2 ,,	,,	6 ,,
7	1 ,, (auto).	½ ,,	2½ ,,	Partial.	24 ,,
8	1 ,, (hetero).	½ ,,	2½ ,,	Complete.	24 ,,
9	1 ,, (auto).	½ ,,	3 ,,	,,	24 ,,
10	1 ,, (hetero).	½ ,,	4 ,,	Partial.	24 ,,
11	1 ,, (auto).	¼ ,,	4½ ,,	,,	24 ,,
12	1 ,, (hetero).	¼ ,,	5 ,,	,,	24 ,,
13	2 ,, Control.	—	4½ ,,	*Nil.*	24 ,,
14	2 ,, ,,	—	5 ,,	,,	24 ,,

In Table III. "auto" signifies that the venous blood and menstrual blood were collected from the same patient; "hetero" that the venous blood was taken from another patient. The coagulation time was estimated by Wright's coagulimeter method and also directly in test tubes. In the experiments quoted the coagulation times indicate that thrombosis was complete and that the test tube containing the mixed bloods could be inverted without the contents escaping.

With regard to the results, it will be noted that in the case of menstrual blood of vaginal origin the coagulation time of the mixture varied from 2 to 5 minutes. The resulting clot was resolved completely in 6 experiments and partially in the remaining 6 in times varying from 12 to 24 hours. With menstrual blood collected directly from the uterus coagulation occurred in from 2 to 4 minutes, the average time being 2·8 minutes. The resolution of clot took place completely in 7 cases and partially in the remaining 5. It should be noted, however, that in the latter, clot was already present before a further quantity of blood was added. With the controls no breaking down of clot occurred, and the coagulation time varied from 4½ to 5½ minutes. In those cases where resolution of the clot is recorded as complete the fluid was centrifugalised and the deposit stained for fibrin by Weigert's method. An important fact indicated in the table is that autolysis occurred not only with the patient's own blood, but also with that from another patient. The phenomenon is best marked where menstrual blood is in excess. When venous blood is in excess fibrinolysis is only partial.

A further series of experiments were undertaken to ascertain whether the substance present in menstrual blood, which possesses this power of disintegrating thrombi, acts in a quantitative manner or as a true enzyme. The results are detailed under Table IV., the object of these experiments also being to ascertain whether the fibrinolysin is in the fluid or solid portion of the menstrual discharge.

TABLE IV.—*To show Thrombolytic Power in the Fluid obtained by Centrifugalising Menstrual Blood.*

Series 1. Menstrual Blood (Vaginal). Fluid only.

Experiment	Venous blood.	Menstrual fluid.	Coagulation time.	Clot resolved.	Time.
1	1 c.c.	3 c.c.	3 min.	Complete.	12 hours.
2	1 ,,	2 ,,	2 ,,	,,	24 ,,
3	1 ,,	1 ,,	3 ,,	Partial.	24 ,,
4	1 ,,	½ ,,	4 ,,	,,	24 ,,
5	1 ,,	¼ ,,	3 ,,	*Nil.*	24 ,,
6	1 ,,	⅛ ,,	5 ,,	,,	24 ,,
7	2 ,, Control.	—	5 ,,	,,	24 ,,
8	2 ,, ,,	—	5½ ,,	,,	24 ,,
	Series 2. Menstrual Blood (Uterine). Fluid only.				
1	1 c.c.	3 c.c.	3 min.	Complete.	24 hours.
2	1 ,,	2 ,,	3 ,,	,,	12 ,,
3	1 ,,	1 ,,	2 ,,	,,	6 ,,
4	1 ,,	½ ,,	4 ,,	Partial.	24 ,,
5	1 ,,	¼ ,,	4 ,,	*Nil.*	24 ,,
6	1 ,,	⅛ ,,	3½ ,,	Partial.	24 ,,
7	2 ,, Control.	—	5 ,,	*Nil.*	24 ,,
8	2 ,, ,,	—	5 ,,	,,	24 ,,

The material for these experiments was obtained by centrifugalising menstrual blood from the uterus and vagina. The fluid in the case of the uterus was clear or only faintly stained with hæmoglobin; that from the vagina, on the other hand, was always dark red in colour due to an extreme degree of

hæmolysis. In the case of those experiments where complete resolution of clot occurred the fluid was again centrifugalised and the supernatant liquid mixed with fresh normal blood and incubated at body temperature. The results of this further series are shown in Table V.

TABLE V.—*To show Thrombolytic Power in Menstrual Fluid after Thrombolysis has occurred. Fluid again Centrifugalised.*

Experiment.	Venous blood.	Menstrual blood.	Coagulation time.	Clot resolved.	Time.
1	1 c.c.	2 c.c.	4 min.	Partial.	24 hours.
2	1 ,,	1 ,,	3 ,,	,,	,,
3	1 ,,	1 ,,	4 ,,	*Nil.*	,,
4	1 ,,	½ ,,	4½ ,,	,,	,,
5	1 ,,	¼ ,,	5 ,,	,,	,,
6	1 ,,	—	4 ,,	,,	,,
7	2 ,, Control.	—	5 ,,	,,	,,

It appears, therefore, that the body producing thrombolysis is present in the fluid portion of the menstrual discharge, and, moreover, acts in a quantitative manner, since it will not produce the resolution of an unlimited amount of thrombus. Its power becomes gradually less in material obtained by repeated autolysis and centrifugalisation. Furthermore, the fibrinolysin present in the menstrual discharge appears to be specific, since it does not exert any very evident action upon fibrin obtained in the usual manner from ox blood as shown in the following series of observations (Table VI.).

TABLE VI.—*To show Fibrinolytic Power of Menstrual Blood upon Ox Fibrin.*

Experiment.	Menstrual blood.	Source.	Fibrin dissolved.	Time.
1	4 c.c.	Vagina.	? Partial.	24 hours.
2	3 ,,	,,	,,	,,
3	2 ,,	,,	*Nil.*	,,
4	1 ,,	Uterus.	,,	,,
5	½ ,,	,,	,,	,,
6	¼ ,,	,,	,,	,,

In these experiments a single thread of fibrin was employed, and in only two was there any evidence of solution. In these the fluid after incubation became very tenacious and tarry, resembling the contents of hæmatocolpos both in consistency and colour. The fibrin thread, however, only partially disappeared, and therefore the experiments cannot be considered conclusive. Digestion of ox blood fibrin with varying quantities of other fluids, for example, extract of endometrium, extract of ovary, hydrocele fluid, and fluid from parovarian and pseudo-mucinous cysts, also all proved negative. The question naturally arises as to whether the thrombolytic property of menstrual fluid is due to any of the known constituents of the latter. Blair Bell has shown that calcium salts are present in the menstrual discharge in excess of those present in the circulating blood. The fluid also contains mucin secreted by the cervical glands and small quantities of lactic and butyric acids. The results obtained in a series of experiments undertaken to ascertain the effect of these substances upon the coagulation time of blood and the possession of any thrombolytic power are shown in Table VII.

TABLE VII.—*To show the Effect of Mucin, Calcium Salts, Lactic and Butyric Acids upon the Coagulation of Blood.*

Series A. Mucin.

Experiment.	Mucin 2 % sol.	Venous blood.	Coagulation time.	Clot resolved.	Time.
1	¼ c.c.	1 c.c.	25 min.	*Nil.*	24 hours.
2	1 ,,	1 ,,	30 ,,	,,	24 ,,
3	2 ,,	1 ,,	35 ,,	,,	24 ,,
4	3 ,,	1 ,,	35 ,,	,,	24 ,,
5	4 ,,	1 ,,	40 ,,	,,	24 ,,
	— Control.	2 ,,	5½ ,,	,,	24 ,,

N.B.—Clot formation delayed and thrombus soft in consistency.

Series B. Calcium Chloride.

Experiment.	Calcium chloride 1 c.c.	Venous blood.	Coagulation time.	Clot resolved.	Time.
1	0·5 %	1 c.c.	7 min.	*Nil.*	24 hours.
2	1 ,,	1 ,,	15 ,,	,,	24 ,,
3	2 ,,	1 ,,	30 ,,	,,	24 ,,
4	3 ,,	1 ,,	*Nil.*	,,	24 ,,
5	4 ,,	1 ,,	,,	,,	24 ,,
6	5 ,,	1 ,,	,,	,,	24 ,,
7	Saturated.	1 ,,	,,	,,	24 ,,
8	— Control.	2 ,,	5 min.	,,	24 ,,

Series B. Calcium Chloride.

Figures given by Wright (quoted by Addis).

0·018 % $CaCl_2$	.....	Blood failed to clot. ? Cause.
0·036 ,, ,,	.....	Clots in 1½ min.
0·055 ,, ,,	.....	,, 1 ,,
0·110 ,, ,,	.....	,, 2½ ,,
0·165 ,, ,,	.....	,, 5 ,,
0·183 ,, ,,	.....	,, 6½ ,,
0·366 ,, ,,	.....	,, over 60 min.
0·550 ,, ,,	.....	,, Fails to clot in 24 hours.

N.B.—Menstrual blood yielded an ash equivalent to 1·44 % total solids and calcium 8 parts CaO per 6000 (0·133 %).

Series C. Lactic Acid.

Experiment.	Lactic acid 1 %.	Venous blood.	Coagulation time.	Clot resolved.
1	¼ c.c.	1 c.c.	10 min.	*Nil.*
2	½ ,,	1 ,,	25 ,,	,,
3	1 ,,	1 ,,	30 ,,	,,
4	2 ,,	1 ,,	*Nil.*	,,
5	3 ,,	1 ,,	,,	,,
6	4 ,,	1 ,,	,,	,,
7	— Control.	2 ,,	5½ min.	,,

Series D. Butyric Acid.

Experiment.	Butyric acid 1 %.	Venous blood.	Coagulation time.	Clot resolved.
1	¼ c.c.	1 c.c.	7½ min.	*Nil.*
2	½ ,,	1 ,,	8 ,,	,,
3	1 ,,	1 ,,	30 ,, (slight).	,,
4	2 ,,	1 ,,	*Nil.*	,,
5	3 ,,	1 ,,	,,	,,
6	4 ,,	1 ,,	,,	,,
7	— Control.	2 ,,	5½ min.	,,

Since observing the phenomenon of thrombolysis in menstrual blood I have investigated several pathological fluids from the same standpoint. I do not wish to go into detail on the present occasion, but in passing I may say that from material obtained from various ovarian cystomata the fluid which appears to possess the best marked thrombolytic power is that contained in lutein cysts. This is interesting in view of the supposed lutein origin of ovarian blood cysts, and the observation that I have already noted as to the absence of fibrin and

fibrinogen from the contents of such cysts. It is probable that thrombolysins play an important part in the living organism in removing products of diffuse hæmorrhage and thrombosis. A body of this nature certainly appears to occupy a definite rôle in the physiology of menstruation by rapidly and easily removing the results of intra-uterine coagulation.

Summarising, therefore, the preceding facts, it appears necessary for descriptive purposes to classify the menstrual discharge under two headings—viz., (1) contents of the uterus; and (2) contents of the vagina. The former consist of thrombus containing epithelial cells, leucocytes, and calcium salts, mixed with the secretion from the uterine glands containing fibrinolysin. The fluid is alkaline in reaction and gives the spectrum of oxyhæmoglobin. The contents of the vagina consist of the products of thrombolytic and hæmolytic digestion, mixed with vaginal cells and the secretions of the corporeal and cervical glands. A considerable amount of mucus is present with traces of lactic and butyric acids. The fluid possesses a faint but distinct odour, and is alkaline in reaction. In colour it is dark red and gives the spectrum of oxyhæmoglobin. Micro-organisms abound in the fluid contained in the vagina, but are rare in material obtained from the uterine cavity.

The Influence of Thrombokinase in Promoting the Clotting of Menstrual Blood.

Rapid clotting of the blood in the tissues of the endometrium is undoubtedly facilitated by the thrombokinitic power of the endometrial stroma. In the results of experiments detailed in Tables I. and III. it was shown that both the tissue of the endometrium and menstrual blood have the power of diminishing the coagulation time of normal blood. This phenomenon I attribute to an excess of thrombokinase derived from the stroma cells. In the results contained in Table VII. I have shown that rapid clotting is not aided by any of the known constituents of the menstrual fluid in such proportions as occur in the latter. On the other hand, it is well known that extracts of certain tissues, such as the testis, have the power of lowering the coagulation time of blood. In the case of the uterine endometrium this specialisation of function and storage of thrombokinase subserves a very important physiological purpose. It must be remembered that under normal conditions hæmorrhage from the menstruating endometrium is a slow ooze, and there is ample time for the blood to be brought into relation both with the stroma cells which contain the thrombotic elements, and the secretion of the uterine glands which brings about thrombolysis. The high thrombokinitic power of the endometrium is therefore a provision of nature to facilitate clotting and prevent excessive hæmorrhage. Even in well-marked cases of hæmophilia profuse uterine hæmorrhage very rarely occurs during menstruation, as recorded by Gulland and Goodall. This to my mind is a very strong clinical argument in favour of the views that I have just put forward.

Thrombokinitic power of the endometrium is present both in the non-menstruating and menstruating uterus, but appears to be most marked in the latter. Clinically the phenomenon is often evident during the operation of curetting. It is well known how rapidly the blood clots when mixed with the curetted endometrium, and special precautions are necessary to obtain tissue for microscopical purposes unmixed with clot. If, now, the curettings are incubated at body temperature partial or complete thrombolysis occurs according to the proportion of tissue and thrombus present. When curettage is performed during a menstrual period thrombolysis appears to be much more active.

The Histological Characters of the Menstruating Endometrium.

Considerable attention has been given within recent years to the anatomical study of the endometrium in the human female, both during the state of rest and during the phases of actual menstruation. Young, in 1911, pointed out that the stroma of the endometrium is to be regarded as a sponge-like structure formed by the union of branching processes from the individual cells, and he suggested that the extravasation of blood into the intercellular spaces is due to metabolic changes taking place within the cells, initiated in all probability by the stimulus of a hormone of ovarian origin. Since the appearance of Young's work I have examined numerous sections of endometrium obtained by operation, and have satisfied myself that his views as regards the development of a reticulum from the cells of the endometrial stroma are correct. Details in structure are best seen during the early pre-menstrual stage before hæmorrhage occurs into the stroma. The individual cells at this period are widely separated from each other, as shown by Fig. 3, and the identity of the so-called reticulum with the branching processes of the individual stroma cells is quite evident.

More recently, Adler and Hitschmann have described in detail the histological characters of the endometrium during the complete menstrual cycle. They point out that the cycle is divided into three stages—viz., pre-menstrual, menstrual, and post-menstrual—the essential changes affecting both the glandular and stroma elements in the endometrium. During the menstrual flow there is a definite loss of epithelium both from the glands and surface of the endometrium. After menstruation an extraordinary formation of new cells occurs, correlating to the amount of tissue lost. This continues until the end of the interval before the succeeding menstruation, when the newly formed epithelium is anatomically complete.

DESCRIPTIONS OF ILLUSTRATIVE PLATES.

The references to Figs. 7 to 13 will appear in the concluding portion of the Lecture.

FIG. 2.—Tissue of endometrium contained in normal menstrual blood (second day), and showing surface epithelium, glands, and stroma cells. The photograph proves that disintegration of tissue normally occurs and that a breach of surface exists.

FIG. 3.—Stroma of endometrium under high magnification to show branching processes of stroma cells and formation of a reticulum.

FIG. 4.—Normal diffuse hypertrophy of endometrium (superficial portion). Superficial glands irregular and dilated; deep glands do not take part in the premenstrual hypertrophy.

FIG. 5.—Early premenstrual decidual change in superficial cells of stroma of endometrium. Note branching of cells and large nuclei.

FIG. 6.—Well-marked "decidual" change in stroma cells during normal menstruation. Section taken from surface of endometrium.

FIG. 7.—Hydrometra in rabbit. Activity of uterine glands. Note dilatation of glands.

FIG. 8.—Hydrometra in rabbit after double oöphorectomy. Shows atrophy of endometrium.

FIG. 9.—Atrophied endometrium in case of diffuse fibrosis uteri. Hæmorrhage was profuse and necessitated hysterectomy.

FIG. 10.—Endometrium showing dilatation of glands and hæmorrhage into stroma. Condition resembles premenstrual stage of normal endometrium.

FIG. 11.—Endometrium, active. Glands large and cystic; leucocytes and epithelial débris in lumina; stroma infiltrated with red blood cells.

FIG. 12.—Endometrium during rest. Glands small and collapsed.

FIG. 13.—True infective endometritis. Note large thrombosed capillaries. Hæmorrhage was not a clinical feature in this case.

FIG. 2

FIG. 5

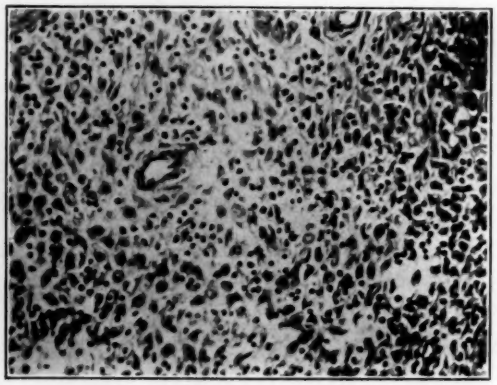


FIG. 3

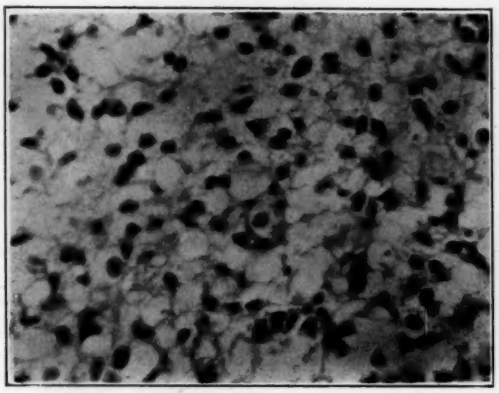


FIG. 6

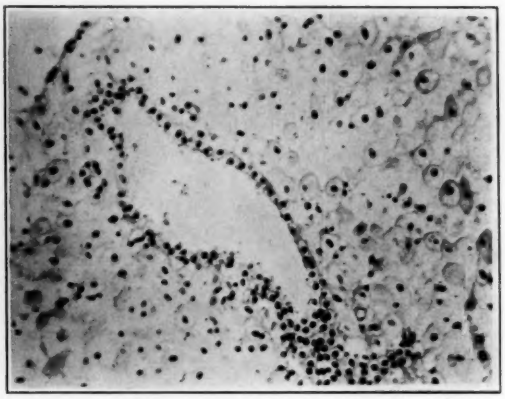
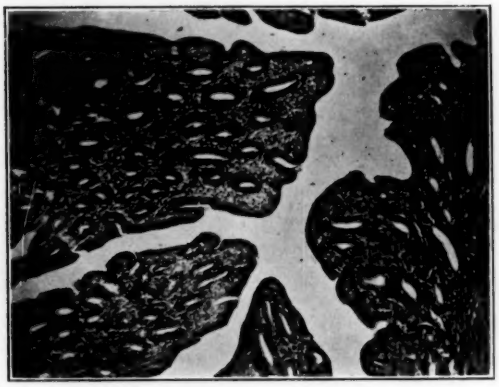


FIG. 4

FIG. 7



To illustrate Mr. Beckwith Whitehouse's Hunterian Lecture on "Uterine Hæmorrhage"

FIG. 8

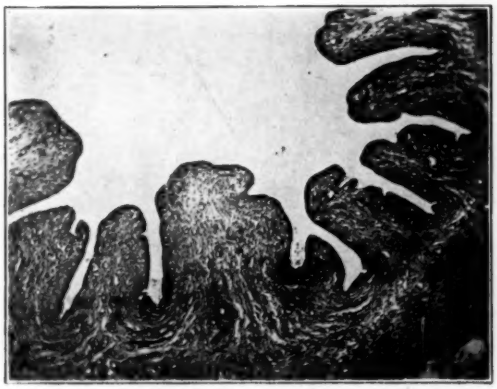


FIG. 11

FIG. 9

FIG. 12

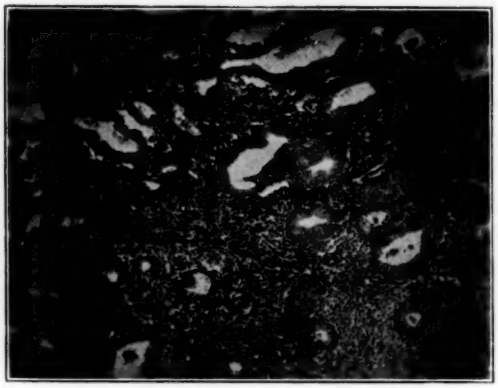


FIG. 10

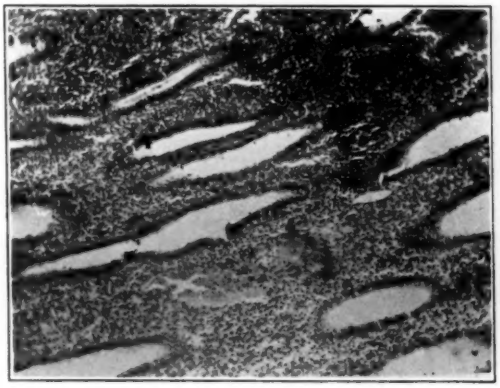
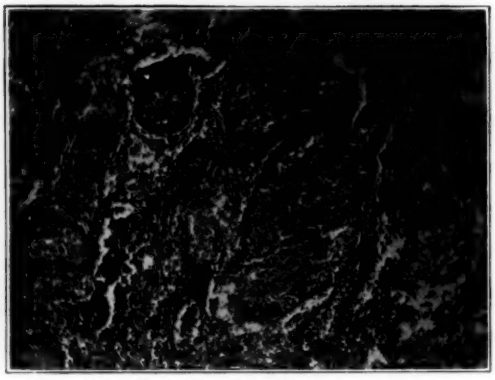


FIG. 13



To illustrate Mr. Beckwith Whitehouse's Hunterian Lecture on "Uterine Hæmorrhage"

Physiological function is then developed, as shown by the production of secretion in the glands. At this stage they are large and dilated, with intraglandular processes composed of high columnar secreting epithelium. At the termination of the function, on the other hand, the glands are small, narrow, and long, and the epithelium low.

The appearance exhibited by glands during the pre-menstrual stage is shown in Fig. 4. It is important to note that apparently only the superficial portion of the endometrium takes part in the active changes during the acme of the cycle. The stroma in relation to the metrium, although congested, does not exhibit under normal conditions the same œdema and hæmorrhage as the superficial layer. It appears, therefore, to act as a rearguard, whose duty it is to replace the tissue lost during the destructive stage. The superficial stroma cells of the endometrium hypertrophy during the pre-menstrual period, and present a more or less similar appearance to the decidua of an early pregnancy. (Fig. 5.)

Occasionally this "decidual reaction" is extremely marked, as shown in Fig. 6, which represents a portion of the curettings obtained from a single girl, aged 23, the operation being performed for dysmenorrhœa. In this particular instance no question of pregnancy could be entertained. Blair Bell has drawn attention to a similar appearance sometimes noted in the "casts" of the uterus passed by patients the subject of so-called membranous dysmenorrhœa or exfoliative endometritis. The view that I hold is that this disease merely represents an extremely high grade of development of what in a lesser degree is a normal anatomical occurrence, and in a sense may be regarded as an atavistic phenomenon. These "casts" are almost precisely identical with the menstrual clot and complete denudation of the endometrium which is present in the higher apes.

Adler and Hitschmann remark that when the development of the endometrium is completed, if pregnancy does not take place, hæmorrhage occurs simply because the glands in the mucosa throw out their secretion. In other words, the loss of blood indicates the termination of the physiological cycle. This hæmorrhage is associated with shedding of portions of the superficial endometrium, both stroma and glands. That destruction of the tissue definitely occurs is shown by Fig. 2, which represents tissue found in the clot collected from the uterine cavity before cytolysis has taken place. Gland epithelium and stroma cells are quite evident.

The facts, therefore, to which special emphasis should be directed are the following: 1. Physiological enlargement and dilatation of the uterine glands during the pre-menstrual stage. 2. The formation of a modified decidua by the superficial cells of the stroma. This, as a rule, is only partial. 3. Hæmorrhage following the complete development of the endometrium associated with partial disintegration of the superficial layers of both glandular epithelium and stroma. 4. A period of regeneration dating from the stage of post-menstrual destruction to the development of a new layer of secreting epithelium and fresh decidua. Correlating these facts with the statements already made upon the biochemical function of the endometrium, I would observe that under physiological conditions hæmorrhage does not occur until both stroma and glands are at their highest grade of development; in other words, both factors are present and physiologically balanced to control uterine bleeding and dispose of the clot so produced.

Factors in the Production and Cessation of the Menstrual Hæmorrhage.

Before an inquiry can be instituted into the question of pathological bleeding it is a matter of the highest importance to ascertain if possible the machinery concerned in the control of normal menstrual hæmorrhage. Three factors suggest themselves as having a possible influence upon such a question—viz., (1) The effect of uterine muscular contractions in limiting the supply of blood flowing to the endometrium; (2) the action of a hormone or hormones producing capillary dilatation in utero; and (3) the biochemical function of the endometrium itself.

As regards the first named, it has been stated that such contractions are present, and that if the uterus is palpated during the progress of the menstrual flow it is not infrequent to note periodic variations in its consistency. Direct demonstration of this fact is of course difficult in the human subject, but in the case of rabbits Blair Bell has recorded that extreme uterine contractions are produced by the injection of uterine secretion. I have also observed the occurrence of direct peristaltic movements in the uteri of rabbits when the secretion obtained from an artificial hydrometra is administered intravenously. Is it possible, therefore, that a portion of the uterine secretion is reabsorbed and serves as a direct stimulus to uterine contraction, thus diminishing the amount of blood flowing to the endometrium?

Bond has gone very carefully into the chemical composition of the uterine secretion in rabbits obtained from an artificial hydrometra. He found that the fluid was clear and watery in appearance with a low specific gravity, and that it held a large quantity of sodium chloride in solution. During pregnancy this secretion was absent. Also, in those animals where the uterine cornua were ligated Bond noted that the period of œstrum was prolonged and occurred frequently. I am at present carrying out an investigation in rabbits into the physiological properties of the uterine secretion obtained by Bond's method, with a view to ascertaining the effect, if any, of this secretion upon the production of œstrum and the control of hæmorrhage. The results so far obtained are sufficiently interesting to place before you.

Experiment I.—Virgin rabbit, weight 1570 grm. On Dec. 9th, 1913, both uterine cornua were ligated and a third ligature passed around the upper end of the vagina. The wound healed in a few days, and on Dec. 19th the animal was placed with the buck. Coitus occurred almost daily until Jan. 12th, when the animal was killed. Both uteri were distended and 3 c.c. of fluid were collected under aseptic precautions. The pelvic viscera and vagina were much congested and the animal was evidently experiencing œstrum. The activity of the uterine glands is shown well in Fig. 7, representing a section through the uterus of this animal compared with Fig. 8, showing a section through the uterus of an animal during the period of anœstrum.

Of the uterine secretion 1 c.c. was immediately mixed with 1 c.c. of the animal's blood. Clotting was complete in 1½ minutes. The control clotted completely in 3½ minutes.

Experiment II.—Mature virgin rabbit, weight 1580 grm. Not "on heat." The animal was inoculated on Jan. 14th, 1914, into the tissues of the thigh with 2 c.c. of the turbid opalescent uterine secretion obtained from Experiment I. The animal was examined the following day and signs of pro-œstrum were present. The following day the abdomen was opened and the pelvic viscera inspected. The uterus was swollen and congested and evidently in œstrum. One

cornu of the organ was excised for microscopical examination, and the other was ligated as in Experiment I. in order to obtain a fresh supply of material.

Experiment III.—Virgin rabbit, weight 1305 grm. On Dec. 12th, 1913, ligation of the right uterine cornu was carried out, the left cornu being left in communication with the vagina. Ten days later the animal was placed with the buck, and it was again noted that coitus occurred at once and almost daily till the date on which it was killed, Jan. 13th, 1914. A well-marked hydrometra of the right uterine cornu was present, and 3 c.c. of turbid opalescent fluid were collected with aseptic precautions. 1 c.c. of the fluid was placed with 1 c.c. of blood. Clotting was complete in 2 minutes. The control clotted in 4½ minutes. The left cornu was much congested and in a state of œstrum. No pregnancy was present.

Experiment IV.—Virgin rabbit, weight 1295 grm. On Jan. 14th, 1914, the animal was inoculated into the tissues of the thigh with 1 c.c. of uterine secretion obtained from Experiment III. On the following day an examination did not show any evident sign that the animal was "on heat." On the second day after operation the abdomen was opened and the pelvic organs examined. Congestion of the uterus and vagina was present, but not to the extreme degree found in Experiment II. It appeared that œstrum was commencing and not fully established. One cornu was excised for microscopical examination; the other was ligated in order to obtain a further supply of secretion.

Experiment V.—Virgin rabbit, weight 1950 grm. On Dec. 16th, 1913, double oöphorectomy was performed, with ligation of both uterine cornua at their junction with the vagina. Ten days later the animal appeared in good health and was placed with the buck. Coitus occurred regularly, and in fact no difference was noted between this animal and the two others in which the ovaries had not been removed. The animal was killed on Jan. 12th, 1914. A small hydrometra was discovered in both uterine cornua, but only 1½ c.c. of fluid could be obtained from the same. The pelvic organs were not markedly congested and the uterine secretion had a different appearance to that noted in the two normal animals. It was a clear watery fluid, not turbid, and when added to an equal quantity of rabbit's blood produced no alteration in the coagulation time.

Experiment VI.—Mature virgin rabbit, weight 1320 grm. Not "on heat." On Jan. 14th, 1914, the animal was inoculated into the muscles of the thigh with 1 c.c. of uterine secretion obtained from Experiment V. No point of interest was noted upon the following day, and two days after the inoculation the pelvic organs were inspected through an abdominal incision. They appeared normal and not congested. One uterine cornu was excised for microscopical examination and the endometrium showed no evidence of marked activity, the glands being small and contracted. Double oöphorectomy was performed and the remaining uterine cornu ligated in order to obtain a further supply of material if possible.

The experiments, as far as the investigation has gone, appear to show that the uterine secretion in rabbits, at least, is under the control of the ovaries both as to amount and physiological action. The normal secretion apparently aids coagulation of the blood—a point of interest when it is remembered that pro-œstrum in this animal is not associated as a rule with external hæmorrhage. The secretion also appears to stimulate œstrum. Bond's experiments have shown that when the fluid is pent up, as in artificial hydrometra, œstrum is frequent and prolonged, and my investigations certainly tend to confirm his observations. It appears possible, therefore, that uterine secretion, stimulated and controlled by an ovarian hormone, is partly absorbed and produces that dilatation of vessels which is characteristic of the late stages of pro-œstrum and immediately precedes œstrum. Whether this is the case with the human female it is only possible to surmise, but with the close analogy of menstruation to pro-œstrum it is certainly possible. At the same time, clinical experience has shown that a period of œstrum or sexual desire may occur in the human species quite independently of both uterus and ovaries, as is the case when these organs have been removed singly or together at an early period of married life. The subject is naturally difficult to investigate from a scientific standpoint, and observations are most reliable when based upon animal experiments.

Concerning heterogeneous extracts prepared from the uterine endometrium and from the ovarian stroma and corpus luteum, I have been unable to satisfy myself that these have any effect in stimulating the onset of œstrum or in accelerating menstruation. At my request Messrs. Burroughs and Wellcome kindly prepared for me extracts of uterine endometrium and ovary from tissues obtained from the sheep. A series of rabbits were inoculated daily with these extracts in doses of 1 c.c. for a period of 28 days. At the end of this time the animals were killed and the pelvic organs, suprarenal and thyroid glands, subjected to detailed macroscopical and microscopical examination. The results as regards the uterus and ovaries are shown in Table VIII.

TABLE VIII.—*To show Effect of Extracts of Sheep's Endometrium and Ovary containing Corpus Luteum upon the Uterus and Ovaries of Rabbits.*

Rabbit.	Initial weight.	Weight at death.	Extract.	Uterus.	Ovaries.
1	1730 grm.	2012 grm.	Endometrium.	Normal.	Normal.
*2	1830 ,,	1790 ,,	,,	Large and congested.	Recent corpus luteum.
3	770 ,,	945 ,,	Ovary.	Normal.	Normal.
4	970 ,,	1135 ,,	,,	,,	,,
5	1390 ,,	1500 ,,	Endometrium and ovary.	,,	,,
6	1430 ,,	1425 ,,	,,	,,	,,

* This animal aborted after the eleventh injection. It was not known to be pregnant when the experiment was commenced.

The uterus and ovaries in these six animals, with the exception of Rabbit 2, presented no difference, either to the naked eye or under the microscope, to the same organs of two control animals. All were in an anœstrus condition, showing no congestion and no recently ruptured Graafian follicles. Rabbit 2 cannot be included in the results owing to the fact that it was pregnant when the experiment commenced. I conclude, therefore, that extracts of the endometrium and ovary of the sheep have no physiological effect in stimulating œstrum in the case of the rabbit.

Similar negative results were observed in the case of six women who received intramuscular injections of these extracts during the premenstrual period. No alteration was noted either in the duration of the cycle or length of the actual menstrual period. Whether these results would be modified by extracts prepared from organs during a period of sexual activity it is impossible at present to say. Such extracts are difficult to obtain in quantities sufficient for experimental purposes.

Be this as it may, there is ample evidence available to show that normal pro-œstrum and menstruation are under the control of the ovary and its associated endocrinous glands. It is superfluous on my part to dwell upon this aspect of the subject, which has been so admirably investigated within recent years. In particular, I would refer to the work of Biedl, Blair Bell, and Harvey Cushing. In the light of such knowledge we cannot say that menstruation is dependent solely upon

ovarian function, although the latter is undoubtedly the strongest link in the chain. We must recognise the fact that the function of this organ is influenced by other elements in that great endocrinous system. A further reference to this subject will be made when discussing pathological uterine hæmorrhage.

(To be concluded.)

ANÆSTHETICS AND DIAGNOSIS.[1]

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ALTHOUGH the commonest use of anæsthetics is to allow of the performance of surgical operations it is not their only use. From the other occasions on which they are employed most interesting results are sometimes forthcoming, and it is with a few of these that I now wish to deal. These less common occasions for the induction of anæsthesia are, first, to permit of complete examination, particularly in abdominal, rectal, and pelvic cases; secondly, to alleviate pain or convulsive attacks; thirdly, to relieve respiratory troubles, as in cases of asthma; and fourthly, to relax muscles so as to get rid of their tone for the time being or to abolish spasm.

In connexion with these comparatively uncommon uses of anæsthesia I have had during the last 15 years some interesting experiences the relation of which may, I think, be not unprofitable. I have seen diagnoses made with confidence beforehand completely changed when the patient was anæsthetised, tumours that had been declared irremovable found to be removable and safely removed, masses revealed the presence of which had been hitherto unsuspected, and operations abandoned when they had been previously held to be perfectly feasible. I have also seen the cause of an existing respiratory trouble revealed in an unexpected direction, and, on the other hand, I have seen respiratory trouble arising in the course of anæsthesia lead to the detection of a mediastinal tumour which had caused no symptoms in the conscious patient. Thus it appears that the administration of an anæsthetic may sometimes be the chief step in making a correct diagnosis, not merely by allowing of an examination which was impossible without it, but also by providing fresh symptoms through the observed behaviour of the respiration during anæsthesia.

First as regards the use of anæsthesia in abdominal examination. I believe it would be a good rule if almost every case of abdominal tumour were examined under an anæsthetic before removal was attempted. The examination can always be made with the patient and all accessories prepared, so that if operation is decided on it can be carried out forthwith and the patient saved a second anæsthetic. I am led to this belief in the advisability of examining these cases under an anæsthetic by the frequency with which I have observed that the surgeon finds when he operates that the condition is different from what he had expected as a result of his previous examination with the patient conscious. Sometimes in tumour cases the tumour is not even in the place or concerned with the organ with which he had expected to find it connected. By not knowing this beforehand he opens the abdomen at a disadvantage. Such was the case, for instance, when an abdomen was opened and an appendix removed which proved to be but little concerned in the patient's symptoms, for a fuller examination of the abdomen from within led to the discovery of an early carcinoma of the sigmoid removable, but not through the same incision. This growth would have been felt by a bimanual examination under anæsthesia. In another patient the abdomen was opened for removal of a growth in the abdomen, but so many and such large secondary deposits occupied the epigastric region that removal was out of the question. With the complete relaxation of full narcosis these growths would have been palpable.

Such a discovery in time happened in another interesting case. Captain A, aged 35, a well-made, active soldier, had complained for weeks of vague indisposition associated with pain in the epigastrium and around the ribs. Nothing abnormal could be felt on examination of the abdomen. A small, firm tumour was discovered on the back, and it was decided to excise this in case its nature should throw any light upon the abdominal discomfort. For this purpose an anæsthetic was given. When the patient was fully under the anæsthetic the surgeon examined the abdomen, and through the flaccid walls he easily felt several masses; one in the neighbourhood of the liver felt so superficial as to make him surprised that it had not been easily detected at his previous examination; it was hard and felt as though it was actually in the abdominal parietes.

Again, a woman aged 68 had attacks of abdominal and thoracic pain at varying intervals. They were accompanied by a sense of fulness in the abdomen and by flatulence; the pain was in the right hypochondrium and affected the shoulder on that side. Two days after such attacks she was slightly yellow. The bowels were often constipated, with alternating diarrhœa. There was some general wasting. Examination of the abdomen showed a normal contour except for some bulging in the right loin. Palpation revealed a rounded body approximately in the position of the lower pole of the right kidney. Under the upper segment of the right rectus nothing definite could be felt, but an impulse could be communicated from a hand in this region to that in the iliocostal space. The diagnosis was made of an enlarged gall-bladder. During anæsthesia a definite mass in the transverse colon was made out and secondary masses in the neighbourhood of the liver and pancreas.

Such cases as those that I have related, which are only examples of very many others, are enough to support the view that an examination under full anæsthesia should be made in most abdominal cases before operation, if not in all cases of abdominal tumour.

It is in the abdominal wall, too, that those strange phantom tumours sometimes appear the confident diagnosis of which can be made only by the use of anæsthesia. A tumour of this sort disappears completely with full narcosis, and, moreover, it disappears in a particular way. Sir William Bennett[2] has pointed out that it does not suddenly vanish as though it had slipped away into another part of the abdomen, but it gradually melts away under the hand. Moreover, as the same observer has noted, during light anæsthesia these muscular tumours

[1] A paper founded on a lecture delivered at the Medical Graduates' College and Polyclinic.

[2] THE LANCET, Jan. 4th, 1902, p. 1.

harden and increase, so that in examining such cases the hand should be kept on the tumour from the beginning, and the behaviour under early and then under late narcosis will show with absolute certainty that the tumour is a phantom one due to muscular contraction.

One good example of phantom tumour, which came under my own notice may be told here. Mrs. B, 54 years old, a pink-faced fattish lady, with a lively manner, but described by her nurses as "very difficult to do anything with," suffered for some days with pain in the abdomen, increasing distension, and complete constipation. The physician and practitioner in charge thought that probably it would be necessary to open the cæcum, and that certainly the patient could not go another night in her present condition. When the surgeon and I arrived the abdomen was greatly distended, apparently with a large tumour rising from below and occupying all the mid-portion of the abdomen. In the semi-recumbent position, in which alone she could breathe with any comfort, an anæsthetic was given slowly and inhaled with no difficulty. As soon as anæsthesia was established the tumour completely disappeared. Some gurgling was heard at this time. Very thorough examination by the three medical men revealed no evidence of any tumour whatever within the abdomen.

These phantom tumours occur elsewhere than in the abdomen and are easily mistaken for growths. When such is the case and the patient is prepared for operation it is very striking when the dressings are removed after anæsthesia is induced to find no tumour present on which to operate. In the case of the abdomen, apart from these phantom tumours which disappear altogether, there is the interesting protective rigidity of muscle which must be considered in connexion with anæsthesia and diagnosis; for I have seen a correct diagnosis made absolutely by noticing the behaviour of a rigid portion of rectus under anæsthesia. The rigidity of the abdominal wall in cases of acute disease, as, for instance, appendicitis, is of course familiar to all, and is an important element in making the diagnosis. This protective rigidity, however, in acute cases usually disappears entirely when the patient is fully under the anæsthetic. Now, in a chronic case there may be such a rigidity which does not disappear in the same way. In the case to which I am referring there was a somewhat vague history of long-standing abdominal pain; the abdomen could not be easily palpated because almost everywhere the wall was kept rigid. Under an anæsthetic this rigidity all disappeared—and here is the important point—except in the upper part of the right rectus; this portion of muscle was tight and rigid, whilst the rest of the abdomen was relaxed and moving. Noticing this fact, the surgeon felt convinced of underlying disease, opened the abdomen in the neighbourhood, and found a chronic duodenal ulcer which had evidently perforated long since and had been shut off by inflammatory products which had affected the under surface of the anterior abdominal wall. It may be noted, by the way, that it is in such a case as this that the anæsthetist may find it impossible to get a condition of the abdominal wall which is comfortable for the operator. I believe in some of these long-standing cases there is a condition of contraction of the muscular fibres which no anæsthetic will overcome; perhaps after long-continued reflex protective contraction some fibrotic change has come about, and the muscle can no longer relax.

Here is another case which brings out the value of examination under an anæsthetic, and is a good example of a large class. A healthy married woman, aged 40, rather nervous, not stout, complained of an abdominal swelling which gave pain and of three months' amenorrhœa. On abdominal and vaginal examination the diagnosis was made of a three months' pregnancy together with a tumour which was probably an ovarian cyst. The enlarged uterus was on the left and the cyst on the right of the whole abdominal swelling. There was some contraction of the abdominal walls which made the examination not absolutely satisfactory, and the gynæcologist decided upon re-examining under anæsthesia before operating for removal of the cyst. This time, on making a combined vaginal and abdominal examination with completely relaxed abdomen, he found that the enlarged uterus constituted the right hand part of the tumour, and that on the left was a firm mass almost certainly fibroid. Irregular contractions in both parts of the mass probably led to the mistaken diagnosis, and this was only remediable by the examination during anæsthesia; the altered diagnosis led to postponement of the operation and normal full-time labour.

Another gynæcological case of different character where there was no tumour, but where the behaviour under an anæsthetic clinched the diagnosis, may be told here. Mrs. C, a dark, thin, highly neurotic married woman, aged 35, had had the appendix removed five years previously; three years later the abdomen had been opened again on account of persistent pain thought to be due perhaps to adhesions in connexion with the previous operation. Two years later she still suffered from chronic pain in the right side of the lower abdomen and pelvis. On vaginal examination it was found that the pain was removed when the cervix uteri was pressed up; any instrument, however, to keep the uterus up itself caused so much pain that it could not be borne. It was then decided to make a thorough examination during anæsthesia, as it was not obvious from the position of the uterus or from anything else why the pain should be present or should be relieved by pressing up the cervix. By palpating the fully relaxed abdomen nothing abnormal could be detected, but when examination was made per vaginam the interesting fact was revealed that pressure at a certain point in Douglas's pouch gave rise to reflex alteration of the breathing; there was some laryngeal spasm with straining of the abdominal wall. The reflex was produced in no other way. In order to test the reality of this phenomenon some traction was exerted upon the uterus, a procedure which will itself often provoke reflex inspiratory spasm, but no result followed upon this traction nor upon stretching the vagina; yet again directly the particular spot in Douglas's pouch was pressed upon there was reflex spasm. This repeated experience made it obvious that something was present to account for this peculiar local susceptibility, and closer examination revealed the presence of a band dragging on the cervix at the point where pressure gave the pain in the conscious patient.

Such instances as the following show the irretrievable disaster of not examining when symptoms suggest its advisability, and in this case, as in many others, the desirability not merely of examining, but of examining during anæsthesia, is shown. A lady, aged 50, highly intelligent, but modest and nervous, suffered from pain in the lower abdomen and occasional passage of blood and mucus

from the rectum. At some times she was much better than at others, often feeling quite well and having no discharge from the bowel. She resented the idea of any local examination and was allowed to drift on with medical treatment for "colitis," as her symptoms had now been christened. Nearly 18 months after the first symptoms she was induced to submit to an examination under anæsthesia. A large ulcerating carcinoma at the recto-sigmoidal junction was easily discovered. It could not, in the surgeon's opinion, have been reached by the finger unless the patient was under an anæsthetic. The growth was by this time inoperable and a palliative colotomy was all that could be offered, whereas a year ago probably the growth could have been seen with a sigmoidoscope, even if not at that time actually felt, and a complete removal effected.

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ON OPERATIONS FOR HÆMORRHOIDS: A REVIEW OF 850 CASES.

BY ARTHUR NEVE, F.R.C.S. EDIN.,
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HÆMORRHOIDS are common in North India, and not less so in Kashmir, where very severe forms are also met with in all sorts and conditions of men. As might be expected in a population living chiefly upon rice and vegetables constipation is a general habit; piles occur and are neglected, leading to inflammatory protrusions, severe hæmorrhages, anæmia, and other complications. The value of surgery is recognised, but the district which feeds the hospital is half the size of England, and men come 10 or 14 days' journey, sometimes in a very debilitated condition. The patients have included Sikhs, Pathans, and Tibetans, as well as a majority of Kashmiris, and a very few Europeans. No women are included in the series.

Preliminary treatment.—In some mild cases we have relieved the patient without operation by means of a regulated diet, suitable laxative medicine, and a suppository containing 5 per cent. chrysarobin with belladonna. Occasionally very weak old men are kept under treatment for a few days, especially if they suffer from any cardiac or other organic disease, but in the whole period only one patient was finally refused the benefit of an operation.

Methods of operation.—The method of choice in this hospital has long been that of clamp and cautery; and though there have been some few cases of ligature or of Whitehead's operation which we specially tried from 1893 to 1897, yet I several times regretted my temporary separation from the trusty clamp. Many other surgeons have made their early experience in this hospital, such as Holland of Quetta, Lechmere Taylor, Clark, and Gaster of North India, and each has carried a Kashmir clamp to his subseqent sphere, and considered it his method of choice.

H. Stone[1] reviews the method of the Johns Hopkins Hospital for a period of 20 years, 470 cases by the Whitehead method, without any death. He quotes W. Graeme Anderson,[2] with 300 cases of which 150 were by ligature, 100 by the Whitehead method, and 50 by clamp and cautery. Anderson preferred the last. O'Conor[3] records 490 cases by the Whitehead method. Hadda publishes a paper based on 223 cases with one death. From Stone's paper I judge that the death-rate is practically negligible in most large clinics. As regards our own experience the results are as follows: Total operations (20 years), 855; known recurrences, 5; improved, 10; not improved, *nil;* left hospital unknown result, *nil;* died, 1.

Comparing the three chief methods of operations I consider that the clamp is suited for all cases, but that the very slight and pedunculated cases are as well treated by ligature, excision and suture. Our experience of Whitehead's method is limited to 20 cases. I have no use for it. It is obviously only needed in the more severe cases with piles all round the circle. In our last 500 cases, many very severe and affecting the whole pile-bearing area, I have failed to see one which could not be adequately treated by the clamp and cautery. In my own experience of excision of the whole area all the stitches were cut out in one case, leaving a raw granulating anus for weeks; in other hospitals I have seen two similar cases and have heard of others. Harvey Stone mentions the following complications in the Johns Hopkins series: (*a*) infected hæmatoma, 1; (*b*) post-operative hæmorrhage, 4; (*c*) local abscesses, 7; (*d*) granulating surface of greater or less extent, 116 cases; (*e*) catheterisation seems to have been very frequently needed; certainly in 1 in 4. As regards ligature, in severe cases it is not easy to apply. If combined with excision there may be troublesome oozing. I saw in my early experience several cases in which great pain was felt. There is a liability to small stitch abscesses, which may leave lingering sinuses.

Details of the operation.—The clamp we use is Benham's, usually called Pollock's, modified in 1882 by Dr. Downes and myself. As Jacobson remarks: "That surgeon will have the best results who has thoroughly familiarised himself with the details of one operation." There are certain errors into which inexperienced operators are apt to fall in using the clamp which show the importance of each of the following details: 1. The anus should be very thoroughly dilated, and this should occupy at least four minutes by the clock. Not merely is this important to obtain a good view and a good prolapse of internal piles, but also to obviate subsequent reflex spasm affecting the urethra and demanding the catheter. In about 10 per cent. of the total the catheter was used once, on the night of the operation. Subsequently catheterisation has only been needed in two or three cases of the 855. 2. Each pile should be gripped with a suitable catch forceps and drawn down and out by an assistant. Thus from four to six forceps will be at once applied, everting the dilated anus. 3. Beginnning at the top pile, the clamp is applied and screwed very tight. If there are only two or three not bulky piles it is applied with the blades longitudinal to the rectum—gripping high up the pedicle, crushing into a line or strip 1½ inches long, then cutting off with curved scissors, and very thoroughly cauterising with the actual cautery, used almost, but not quite, red hot. The Paquelin cautery is very inferior for this purpose. Two iron or copper cauteries are needed with a bulb the size of a cherry. Each pile should take at least two minutes to crush and burn. 4. After the clamp is released care should be taken *not to drag on the wound* and

[1] H. Stone: Annals of Surgery, 1913, p. 647.
[2] Anderson: Brit. Med. Jour., 1909, vol. ii., p. 1276
[3] O'Conor: THE LANCET 1910, vol. ii., p. 946.

pull it open. 5. If piles are protruding and inflamed or thrombosed it is often practicable to apply the clamp parallel to the anus, thus bringing the rectum down into apposition with the margin; almost as if a ring had been excised, but always leaving intervals of untouched mucous membrane, so that subsequent wide gaping of the wounds or contraction of the anus is avoided. If the piles are numerous and large I prefer to crush some in a longitudinal, and the alternate ones in a horizontal, direction, so as to prevent the contraction and yet remove efficiently. 6. The parts are then gently pressed up. Perhaps once in 50 cases it is necessary to touch an oozing spot with the point of a cautery. Twice or thrice in the whole series a spurting arteriole has demanded ligature. A morphia and iodoform suppository is then placed inside and a ball-shaped absorbent pad is pressed against the part. 7. At night in perhaps 10 per cent. of the cases the catheter is required, but almost never subsequently. It is the elderly men who may need it. 8. On the fourth day a dose of castor oil is administered. When the bowels act for the first time it is not unusual for a slight oozing to occur. But we have no record of any case of serious hæmorrhage. About the fifth or sixth day the burnt and crushed pedicle may gape a little and granulations appear. These are visible, and require daily dressing, until about the fourteenth day. Occasionally with straining the wounds gape half an inch wide, and healing may then take three weeks. In 100 cases 85 were allowed to go healed within 15 days. In 8 cases they were kept a week longer, and 7 were detained nearly a month, usually on account of old-standing anæmia and cardiac or pulmonary disease. The age of all the patients was between 20 and 75. 8 per cent were over 60 years of age. In the after-treatment it is a comfort not to have to search for buried ligatures or stitches, which are bound to become more or less septic.

We have not had a single case of abscess, or hæmatoma, or of hæmorrhage, either operative or post-operative, in this series. In a former series post-operative hæmorrhage was twice experienced —from a different pattern clamp that did not crush effectively and from insufficient cauterisation. And in the former series of 60 cases there was one death from pulmonary embolism in a weakly old man.

As complications of the disease in the present series I note severe anæmia in 5 per cent.; diarrhœa, 3 per cent.; cardiac disease, 2 per cent.; bronchitis, 2 per cent.; syphilitic ulcers and condylomata in 1 case; fistula in 2 cases; and fissure in 3 cases. Anæsthesia (chloroform) gave trouble only in one patient, who required artificial respiration for a minute or two. Spinal analgesia was not employed in any of these cases and local analgesia only in a very few slight ones.

As to after-complications, in 2 cases the catheter was needed for a few days. In 2 cases secondary operations were needed within a few weeks. Two or three operations were done at a later period for recurrence. These results are the more noteworthy that quite a quarter of the operations must have been performed by junior surgeons of little experience, but after a man has done a very few of these operations under supervision and with a little help from us he can be trusted to get first-rate results in 95 per cent. of the cases.

Srinagar.

AN INVESTIGATION INTO

THE EFFECTS OF DRINKING-WATER UPON THE CAUSATION OF DENTAL CARIES IN SCHOOL CHILDREN.[1]

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THE widespread prevalence of dental caries among school children is a matter demanding the most serious attention of all who are responsible for, or interested in, the maintenance of the health and physique of the rising generation. The evils resulting from neglected defective teeth are well known, and the skilled dental attention associated with the systematic inspection of school children cannot be too highly appreciated. But prevention is better than cure, and no prophylactic measures on an extensive or national scale are possible while our knowledge of the primary causes of this condition remains in such a nebulous state.

A number of casual and disconnected observations in various parts of the country suggested to me the possibility of there being an association between the nature of the water used for drinking purposes and the prevalence of dental caries amongst the children. In the hope of obtaining information upon this subject the following schedule was printed on postcards, and a copy was sent to each of the school medical officers in the urban districts of England and Wales, together with a covering note explaining the nature of the investigation and a request for an early reply.

BOROUGH OF _____

YEAR, 1910.

Number of School Children over 12 years of age medically examined.....

Number of School Children over 12 years of age having FOUR or more carious teeth.....

WATER.

Total Hardness = parts per 100,000

Permanent ,, = ,, ,, ,,

Temporary ,, = ,, ,, ,,

ANY FURTHER INFORMATION CONCERNING

A. Water Supply—its nature, geological formation from which it is obtained.

B. Teeth of the children, prevalence of rickets, tubercle, &c.

The inquiry was limited to children over 12 years of age in order to avoid any confusion arising from the presence of defective teeth of the first dentition. Four or more carious teeth was the standard selected because it coincided with the returns required by the medical officer to the Board of Education. No cards were sent to the school medical officers of rural districts because it was realised that the variations in the water-supplies, together with the small number of children in such localities, presented an insuperable obstacle to the collection of useful data. In all, 150 inquiries were sent out and about 100 answers were received. Owing to various reasons (such as the age-period quoted, or the number of teeth reported upon, differing from the schedule on the post-card; or the data concerning the water-supply being omitted) the returns from 80 districts only were ultimately available for the purpose of correlating the nature of the water-supply with the amount of dental caries. And for similar reasons this number was still further reduced when dealing with the temporary

and permanent hardness. The total hardness, the temporary hardness, and the permanent hardness were each in turn correlated with the percentage of children having four or more carious teeth. On account of the shortness of the series no correlation tables were used, but the product-moments were obtained by deviation from the mean for each individual case. The results are shown in Table A.

TABLE A.

Variates.	Number of observations.	Correlations.	Probable error.	Remarks.
Total hardness of water and percentage of children with 4 or more carious teeth.	80	0·4702	± 0·05	The harder the water the better the teeth.
Temporary hardness of water, and percentage of children with 4 or more carious teeth.	70	0·491	±0·06	The harder the water the better the teeth.
Permanent hardness of water, and percentage of children with 4 or more carious teeth.	73	0·303	±0·06	The harder the water the better the teeth.

These correlations indicate that in the areas under consideration there is a definite association between the quality of the drinking-water and the amount of dental caries amongst the school children; the harder the water the better the teeth, and obversely. The slightly higher correlation in the case of the temporary hardness is of interest in view of the recently advanced hypothesis concerning calcium metabolism and dental caries. H. Ewan Waller, in the course of a most interesting article on "The Internal Secretions as the First Links in the Chain of Dental Caries," [1] points out that there is —

"some factor which makes the teeth more liable to decay during the period of growth than subsequently. ..... Some factor which confers considerable immunity against caries upon the victims of gout. ..... I think this elusive factor may be summed up in two words, calcium metabolism. ..... There is a heavy drain on the calcium content of the blood during the period of growth, the calcium, of course, being utilised to make bone. ..... Gout is essentially a disease of deficient metabolism, and the calcium elimination is slow. This is illustrated by the well-known ill-effect that hard waters have upon the victims of gout. ..... Where there is a special demand made as for skeletal growth ..... the shortage (of calcium salts) immediately becomes evident, and the saliva becomes defective in alkalinity and caries is liable to occur. There is probably a certain amount of truth in this supposition, and it is supported by the fact that a somewhat lower percentage of caries was found in the teeth of the children dwelling in the hard-water districts of Baden and Thuringia than in the children who lived only a few miles away but drank soft water."

The correlations in Table A certainly lend support to the foregoing hypothesis, but there are other important factors to be taken into consideration. Districts with a plentiful supply of soft water (especially if they be near a coalfield) are *ipso facto* peculiarly suited for the requirements of many manufacturing processes, and thus often have a more industrial population than localities having a harder water-supply. It is well known that in industrial districts the environment is unfavourable for the healthy upbringing of young children, and it is also generally accepted that the health and nutrition of a child during the first few years of its life have an important bearing upon the nature of its permanent teeth—weakly, underfed, and badly nourished children having, as a rule, worse permanent teeth than those reared under more favourable circumstances. It therefore follows that if some factor indicative of the well-being of the children in the localities under consideration could be obtained, and correlated with the figures giving the nature of the water-supply, the results might be expected to show some indication of the influences detrimental to the health in early life of the children in industrial populations.

In order to test this view the infantile mortality for the several districts was taken as an index to the physique of the children. The infantile mortality figures were obtained from the Registrar-General's annual returns, and were correlated with the figures giving the respective hardness of the water-supply. Unfortunately, owing to the differences between the populations of the registration districts used by the Registrar-General, and the urban areas used by the Sanitary Authorities, many of the localities were unfitted for comparison. In all, the returns for 72 districts were found to be strictly comparable, and these were correlated with the following results :—

TABLE B.

Variates.	Number of observations.	Correlation.	Probable error.	Remarks.
Total hardness of water and infantile mortality.	72	0·4133	± 0·06	The harder the water the lower the infantile mortality

This correlation may be regarded as indicating a certain association, in the districts concerned, between the nature of the water-supply and those conditions (whatever they may be) which are conducive to a high death-rate amongst the infants in the population. It will be noted that this correlation, 0·4133 ± 0·06, is very similar to the correlation between the total hardness of the water and the number of children having four or more carious teeth—viz., 0·4702 ± 0·05. In other words, it may be assumed that in these localities the relation between the nature of the water-supply and the amount of dental caries is of a similar intensity to that between the nature of the water-supply and the infantile mortality.

The next step was to ascertain whether there is any association between the amount of infantile mortality and the amount of dental caries in the same districts. The figures for these two variates were therefore correlated as follows :—

TABLE C.

Variates.	Number of observations.	Correlation.	Probable error.	Remarks.
Infantile mortality and percentage of children with 4 or more carious teeth.	72	0·4633	±0·06	The lower the infantile mortality the better the teeth.

It will be seen that here again there is an association rather stronger than that between the nature of the water-supply and the amount of infantile mortality, and approximating more closely to that between the nature of the water-supply and the amount of dental caries. But more information can be obtained from the foregoing data. It is obvious that several *possible* causes are operating,

[1] British Dental Journal, July 15th, 1913.

all at the same time, in producing variations in the amount of dental caries in the school children. The method of "partial correlation" enables us to measure the extent of relationship between two varying phenomena, when other interacting phenomena are kept constant throughout the series of observations. Thus, it is possible by means of a partial correlation to estimate the relation between the nature of the water-supply and the amount of dental caries for a constant infantile mortality. This has been worked out, and, taking infantile mortality as a measure of environmental conditions, the partial correlation is 0·3454 ± 0·066, indicating that the harder the water the better the teeth.

As it was not practicable to obtain for the districts under consideration the death-rates of children of the same age as those whose teeth were examined, another indirect index of the physique of the children was taken—namely, the general death-rate. This was correlated in turn with the total hardness of water and with the percentages of children having four or more carious teeth, the results being given in Table D.

TABLE D.

Variates.	Number of observations.	Correlations.	Probable error.	Remarks.
General death-rate and total hardness of water.	72	0·2965	± 0·06	The lower the general death-rate the harder the water.
General death-rate and percentage of children having 4 or more carious teeth.	72	0·3178	± 0·06	The lower the general death-rate the better the teeth.

Here again there is an apparent, though less marked, association between the nature of the water-supply, the amount of dental caries, and the general death-rate. In a manner similar to the former, the relation between the nature of the water-supply and the amount of dental caries can be worked out for a constant general death-rate. In this case, taking the general death-rate as a measure of environmental conditions, the partial correlation is 0·4152 ± 0·066, indicating that the harder the water the better the teeth. This result, again, suggests an association between the nature of the water-supply and the condition of the teeth, hard water going with good teeth and *vice versa*.

The returns for the Yorkshire and Lancashire towns were next separated from those for the rest of England and Wales, and the figures for the nature of the water-supply and the amount of dental caries for the two groups were correlated separately. The results are given in Table E:—

TABLE E.

Variates.	Number of observations.	Correlations.	Probable error.	Remarks.
Total hardness of water and the percentage of school children with four or more carious teeth, Lancashire and Yorkshire towns only.	23	0·427	± 0·11	The harder the water the better the teeth.
Total hardness of water and the percentage of school children with four or more carious teeth, rest of England and Wales.	56	0·438	± 0·08	The harder the water the better the teeth.

So far as these figures go they agree with the results given in Table A and indicate that, assuming the social conditions in the industrial districts of Yorkshire and Lancashire to be less favourable for young children than in the rest of England and Wales, there is no evidence to show that such unfavourable surroundings have any influence upon the relationship between the hardness of water and the amount of dental caries amongst the school children.

It is well known that where people are crowded together certain unfavourable conditions are produced which injuriously affect the health of infants and young children. The consequences and concomitants of such aggregation produce the high infantile mortality of our manufacturing towns and other thickly populated areas. As another indirect measure of the social conditions in the districts under consideration the figures relating to overcrowding were taken from the General Census Report, and, in turn, correlated with the hardness of water and the percentage of carious teeth in each of the areas. The results are given in Table F:—

TABLE F.

Variates.	Number of observations.	Correlations.	Remarks.
Number of persons per house, and the total hardness of the water.	79	0·0526	Not significant.
Number of persons per house, and the percentage of children having four or more carious teeth.	79	0·0672	Not significant.

It will be noted that in this table the correlations are calculated from 79 observations only. This is due to the fact that Aldershot, with its excessive aggregation of soldiers per house, so vitiated the value of the figures that it was omitted. There appears to be no association between the number of persons per house and the hardness of water or between the number of persons per house and the percentage of dental caries.

The partial correlation was next worked out for the relation between the hardness of water and the percentage of dental caries for a constant amount of overcrowding, Aldershot being excluded. In this case, taking a constant amount of overcrowding as a measure of environmental conditions, the partial correlation is 0·4643 ± 0·059; the harder the water the better the teeth. This result is noteworthy on account of its close approximation to the correlation between hardness of water and percentage of dental caries given in Table A. An attempt was also made to work out correlations in respect of rickets amongst the school children, but owing to paucity of data the results were not significant.

Conclusions.—1. The foregoing correlations and partial correlations indicate an association between excessive softness of water and an increased amount of dental caries amongst the school children, and obversely. 2. The association is evident, but it must be remembered that this inquiry deals only with urban districts; had it been possible to obtain reliable returns from rural districts its value would have been considerably enhanced. 3. The environmental conditions, so far as it was possible to measure them, do not seem to be a source of the relation between the hardness of water and the amount of dental caries. 4. It must be definitely and distinctly emphasised that these correlations and partial correlations merely call attention to an association between the nature of the drinking water and the amount of

dental caries, and must not be regarded as necessarily indicating cause and effect. 5. There may well be other factors at work which have a greater influence, but if this investigation merely draws attention to a hitherto neglected topic it will not have been undertaken in vain.

Isleworth.

A CASE OF MALARIAL COMA LASTING 46 HOURS: RECOVERY.

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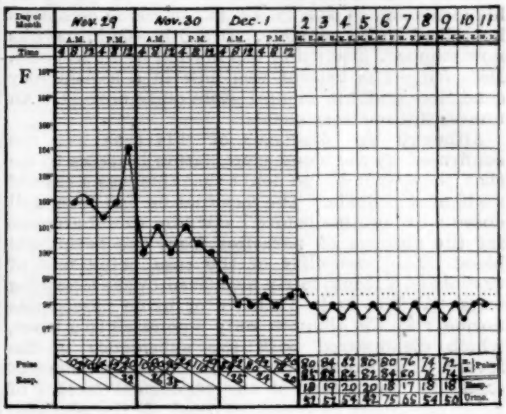
THE following case is perhaps worthy of publication in the columns of THE LANCET, since recovery in a case of such long duration is exceptional, especially in an adult patient.

A. B., aged 23, a gunner serving in the Punjab, was admitted to hospital under my care on Nov. 29th, 1913. He was transferred from camp by Captain A. G. Jones, R.A.M.C., who informed me that the illness began whilst on manœuvres. He had been suffering from fever about three weeks previously, for which he was treated in hospital. He recovered from this and proceeded on manœuvres, during which time he was receiving quinine daily. Early in the morning of the 29th, however, his comrades found him lying in his tent quite unconscious.

When I first saw the patient he had been unconscious for four and a half hours. On examination he was found to be in a condition of coma, with pupils widely dilated but which reacted directly and consensually to light. There were no signs of ocular paresis. The knee-jerks and plantar reflexes were both normal. All the limbs were stiff and rigid. His breathing was stertorous. The temperature was 102° F.; the pulse was regular and full, and its rate 104 per minute. There was incontinence of urine and no specimen was available for examination. There was no evidence of any injury to the skull and no localising symptoms of cerebral hæmorrhage, and there was no smell of alcohol. The heart was normal, as also were the lungs. Captain J. W. H. Babington, I.M.S., reported that the fundi oculorum were quite normal except for slight venous dilatation and the presence of some fine dark pigment on the surface of both discs. A blood slide taken immediately on admission showed no malarial parasites, but with the history of fever before the onset of coma the case was considered to be one of malignant malaria. An intramuscular injection of 10 grains of quinine hydrochloride was given at once, and this was followed after an interval of one hour by 5 grains of the same drug in a pint of normal saline *viâ* the median basilic vein. Later calomel and pulv. jalapæ co. were given by the mouth. During the day the patient sweated freely, and he was sponged several times. Ten hours after admission a second intramuscular injection of 10 grains of quinine hydrochloride was administered.

Nov. 30th.—A slight improvement was evident. The pupils were less widely dilated and reacted well to light, and instead of the eyelids being open and the eyes staring straight above the patient the former were closed and any attempt to open them was resisted. There was still incontinence of urine, and as the bowels had not acted an enema of soap and water was given, but this was retained. At 2.30 P.M. a convulsion occurred; when I saw the patient shortly afterwards he was very cyanosed, his pulse was quick, and his breathing rapid and stertorous. A hypodermic injection of strychnine was given and a pint of normal salt solution administered per rectum. After 30 minutes the colour improved and the breathing became less stertorous. During the afternoon and evening the patient had seven more convulsive seizures; his condition was now very serious and there appeared to be little hope of recovery. These convulsions involved the whole body and they closely resembled the clonic stage of epilepsy. The tongue was bitten during the fits. Later the bowels were well opened, and a small quantity of urine which was secured showed the presence of a trace of albumin. At 10.30 P.M. the breathing was easy and regular; the pupils



Temperature chart.

were contracted to 3 mm. and reacted well to light. Two intramuscular injections of 10 grains of quinine were given during the day, and a total of three pints of saline given per rectum was retained.

Dec. 1st.—The rectal salines were continued every three hours during the night. At 2 A.M. some confused sentences were uttered, and two hours later he asked quite sensibly for a drink. At 9 A.M. he was able in a semi-dazed manner to reply to my questions. The pupils were normal, as was also the temperature. The pulse-rate was 88 per minute. 10-grain quinine injections twice a day and the salines per rectum were continued. Urine examination: Cloudy yellow colour; specific gravity 1016; acid reaction, albumin 1/10, no sugar. Microscopic examination of a brownish deposit showed the presence of urates only; there were no casts and no blood cells.

Dec. 2nd.—The patient was now able to take fluid nourishment, and the salines were therefore discontinued. The urine was as previously noted except that the amount of albumin was less. The patient became very restless; he was continually trying to remove the dressings from his arm, and he had to be forcibly restrained from getting out of bed. He also manifested marked delusions of persecution. Potassium bromide 20 grains and chloral hydrate 10 grains, followed by a subcutaneous injection of ¼ grain morphia, were unsuccessful in producing sleep. One injection, 10 grains, of quinine was given.

Dec. 3rd.—The patient's mental condition remained the same, and he suspected that his food was being poisoned. A potassium bromide and tincture of hyoscyamus mixture was given four-hourly during the day, and at night 1/100 grain of

hyoscine was administered hypodermically, but no sleep resulted, the patient being restless and talking incoherently all night. Quinine 10 grains three times a day by the mouth was substituted for the intramuscular injections. The urine showed only a trace of albumin, specific gravity 1015.

Dec. 4th.—Magnesium sulphate was given with good result. Up to now no sleep had been obtained since the patient had recovered consciousness. At bedtime ½ grain of morphia was injected subcutaneously, and this was followed by sleep for six hours. But as the delirium continued 30 grains of trional were given by the mouth. This was followed by natural sleep practically up to the evening of Dec. 6th, the patient only waking up for his meals and to pass urine, &c., on which occasions he talked quite sensibly. Dec. 5th.—Quinine was now stopped. The urine was normal in all respects. Dec. 7th.—The patient was now in a satisfactory condition and his mental state quite normal. An uneventful recovery ensued.

Although the diagnosis of this case was not confirmed by the blood examination it seems to me that there can be no doubt that this was a case of malignant malaria. The fact that he had been well dosed with quinine before I saw him would account for the absence of parasites from the peripheral blood. The possibility of the case being one of uræmia is, I think, fairly negatived by the following facts: (1) The daily quantity of urine passed was normal; (2) the albumin only amounted to a trace, which disappeared with the subsidence of the fever; (3) no examination revealed the presence of casts; (4) no history of any etiological factors of nephritis could be obtained; and (5) the administration of quinine in full doses resulted in a complete cure.

The essential pathology of this condition has been conclusively proved to be due to the blocking of the small cerebral vessels with parasite-laden corpuscles. Our object in treatment must therefore be: (1) to destroy the parasites; and (2) to flush them out of the blocked capillaries. In my opinion these cases should therefore be treated energetically and persistently with quinine, commencing with an intravenous injection of 5 to 10 grains of the bihydrochloride in a pint of saline, and subsequently giving intramuscular injections of the same drug in 10 grain doses twice a day until consciousness is restored. The administration of salines intravenously and per rectum will accomplish the second object.

One must not, however, be satisfied with the disappearance of the acute symptoms and the apparent restoration to normal health, for the liability of malignant malaria to recur even after return to temperate climates and after long intervals is a well-known clinical fact. Some even doubt whether malignant malaria can ever be cured, but I think one is hardly justified in taking such an extreme view. Five grains of quinine in tabloid form should be taken every other day for a period of at least three months, and I think if this line of treatment is conscientiously carried out few cases would recur. In the event of the slightest recurrence resort should be at once taken to the intramuscular method of treatment, which is of especial value in combating this form of malaria. I have never seen any harm result from injections of quinine, and I believe that there is no risk of tetanus supervening, provided the injection is made under strict aseptic conditions.

Jhelum, India.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

SECTION OF OBSTETRICS AND GYNÆCOLOGY.

Exhibition of Specimens.—Case of Chorion Epithelioma.—Cæsarean Section under Spinal Anæsthesia in Pregnancy Complicated with Morbus Cordis.—Abdominal Operation After Colostomy for Superior Recto-vaginal Fistula.

A MEETING of this section was held on March 5th, Dr. W. S. A. GRIFFITH being in the chair.

Dr. J. A. BRAXTON HICKS showed for Dr. T. G. STEVENS a specimen of decidual cast passed during the puerperium from the unimpregnated horn of a didelphic uterus. The clinical notes of this case were read at the meeting of this section on Feb. 5th, 1914.[1] The cast, which measured 8 cm. by 6·5 cm. and was 1·5 cm. thick, presented the appearances of an ectopic gestation cast, but was much larger. Microscopically it consisted of fine connective tissue in which were decidual and interglandular cells and the remains of uterine glands.

Dr. CUTHBERT LOCKYER showed a case of Multiple Fibroids removed during the sixth month of pregnancy, in which spontaneous labour occurred at term, followed by a normal puerperium. As the patient was 41 years of age and had never been pregnant, pregnancy was not at first suspected, and treatment for a reddish-brown discharge was carried out for three months in the out-department of Charing Cross Hospital. In October, 1913, a fibroid was impacted in the pelvis, elevating the cervix so that the external os was at the level of the upper limit of the symphysis pubis, and there was an elastic swelling reaching for three fingers'-breadth above the umbilicus. There was secretion in the breasts. On Oct. 24th a fibroid the size of a fœtal head was enucleated from the lower uterine segment, and one the size of a tangerine orange was removed from the back of the uterus higher up. After four months' comparative comfort a healthy female child was born at Charing Cross Hospital.—The PRESIDENT, Dr. WALTER W. H. TATE, Dr. A. E. GILES, and Mrs. SCHARLIEB discussed the case.

Mr. VICTOR BONNEY showed: (1) A Dermoid Cyst of ovarian origin, expelled through the rectum during labour; (2) a specimen removed by operation consisting of the uterus, vagina, and urethra, showing a squamous-celled carcinoma of the cervix co-existent with an adeno-carcinoma of the body of the uterus (a metastatic squamous-celled growth round the urethra was also present); and (3) a Hernia of the Umbilical Cord containing a large portion of intestine which had unwittingly been removed by a practitioner when separating the child at birth. The umbilicus was opened and the cut ends of the gut were united. The child died 12 hours later, and a post-mortem examination showed that practically all the intestine had been removed, the beginning of the jejunum having been joined to the rectum.

Remarks were made by Dr. T. W. EDEN, Dr. H. WILLIAMSON, Dr. G. BLACKER, Dr. BRAXTON HICKS, Dr. R. D. MAXWELL, and Mr. BONNEY replied.

Dr. DRUMMOND MAXWELL showed: 1. A large Interstitial Fibromyoma, 6 inches in diameter in the fundus of the uterus, in a woman aged 23, removed by abdominal hysterectomy after the third stage of labour. It did not complicate delivery, which was spontaneous. Free bleeding ensued after the placenta was expelled. It was found that the placental site occupied part of the capsule of the fibroid, and that it would have been impossible to enucleate the mass without severe mutilation of the uterus. Risks of sepsis were discussed in any expectant treatment, if the tumour had been left *in situ*. 2. Defective Ossification of an Infant's Head. This case exhibited cranial dysostosis, the malformation of the vault of the head being considerable, a large gap existing between the two halves of the frontal bone measuring 3½ by 2½ inches, covered only by tough pericranium. The clavicles were normal. The mother's pelvis showed some contraction, and forceps extraction was necessary. The child died 30 hours after.

Dr. HERBERT WILLIAMSON and Mr. CHARLES NOON

[1] THE LANCET, Feb. 28th, 1914, p. 609.

contributed a paper on a case of Chorion Epithelioma presenting some unusual features in a woman, aged 39, the mother of two children. After the birth of her last child she was regular for four years. In February, 1912, after three months' amenorrhœa, she passed a vesicular mole. She remained well up to the end of March, 1912, when an abscess was opened per vaginam. She was again better up to July, 1913, when she suffered abdominal pain and vomiting, and began to lose weight. In August there were chest symptoms and slight hæmoptysis. On admission to St. Bartholomew's Hospital on August 4th she was very ill, and there were signs in the left side of the chest. Respirations 40, pulse 108. The skin was jaundiced. There was a large mass in the abdomen extending 7 inches above the top of the symphysis. Per vaginam the cervix was difficult to reach, and a tender, fixed mass occupied the greater part of the pelvic excavation. The question of pregnancy or new growth was difficult. Skiagrams, however, showed dark areas in both lungs, and secondary growth was suspected in the liver. Abderhalden's test by Mr. Mackenzie Wallis showed a strongly positive result with ninhydrin and the optical method. A diagnosis was therefore made of chorion epithelioma. The patient gradually sank and died on the twentieth day after admission. Dr. Williamson showed the mass of growth which occupied the pelvis, and it was remarkable that the uterus itself was little affected, the main portion of the growth being behind the uterus, filling the pelvic cavity and measuring 7 in. by 4 in. It was intimately connected with most of the pelvic viscera, and its lower pole on section exhibited the usual dark-red colour. The liver and lungs contained secondary growths. Sections of the growth and secondary deposits showed typical chorion epithelioma. The value of Abderhalden's test for early diagnosis was pointed out, also the worthlessness of mere exploration of the uterine cavity, seeing that in this case the growth was completely outside the uterine cavity. It was also interesting that 16 months elapsed between the expulsion of the mole and the onset of the symptoms.—Remarks were made by the PRESIDENT, Mr. BONNEY, Dr. S. GORDON LUKER, and Dr. ARCHIBALD LEITCH.

Dr. J. D. BARRIS reported a successful case of the treatment of Pregnancy complicated by Morbus Cordis by means of Cæsarean Section under Spinal Anæsthesia from the maternity department of St. Bartholomew's Hospital; also notes of four other cases which he had collected. Dr. Barris's patient had had ten previous labours, the last in April, 1910. She had rheumatic fever in 1901, also in 1910, just before the birth of her last child. At this time there was no sign of cardiac failure, but she had suffered with shortness of breath since. On admission, under the care of Dr. W. P. Herringham, she was very ill, with a dilated heart, dyspnœa, and an almost uncountable pulse. She improved somewhat by venesection and digitalis, and was transferred to the maternity ward, being then about 27 weeks pregnant. A relapse occurred, and owing to the serious condition Cæsarean section was done (1) because rapid delivery with some form of anæsthesia was necessary; (2) because a general anæsthetic was contra-indicated owing to the condition of the heart. Abdominal Cæsarean section was preferred to vaginal on account of the size of the child, and the patient could be sterilised. The operation was quite successful and the patient made a good recovery. Other cases of this nature were quoted by the author.—Remarks were made by Dr. MAXWELL, Dr. BLACKER, and Dr. FAIRBAIRN, and Dr. BARRIS replied.

Dr. EDEN read a paper on a case of Superior Recto-vaginal Fistula dealt with by an Abdominal Operation after Preliminary Colostomy. The patient was a 6-para, aged 38, who was admitted to the Chelsea Hospital for Women with a large recto-vaginal fistula on July 29th, 1913, about five weeks after the birth of her last child. The fistula admitted two fingers and was situated at the highest part of the posterior vaginal wall. The parts were immobile and the cervix could not be drawn down by traction. It was decided to attack the fistula from above by a trans-peritoneal operation. Colostomy was first performed by Wallis's method, a loop of the pelvic colon being made use of. Three weeks later the fistula was closed per abdomen. The operation consisted in stripping the uterus and posterior vaginal wall from the rectum down to the level of an inch below the fistula. The rectal aperture was then closed in a transverse plane with interrupted stitches taking up all the coats. There was not room for a second row of rectal stitches, so a flap of the posterior vaginal wall was stitched to the rectum so as to cover over completely the line of stitches. The uterus was removed, partly to prevent further pregnancy, partly to allow more room for working in the pelvis. The ovaries were both healthy and therefore were not removed, and the vagina was left open for drainage. The rectal wound did not heal by primary intention, and after a week a foul vaginal discharge occurred with moderate pyrexia. These unfavourable symptoms soon subsided, and 18 days after the operation the lower segment of the bowel was irrigated from above and found to be watertight. Four weeks after closing the fistula the continuity of the pelvic colon was restored by excising the colostomy opening and re-uniting the gut by end-to-end anastomosis. From this the patient made a good recovery. The author claimed for colostomy certain definite advantages in dealing with bowel fistulæ high up in the vagina: (1) it permitted preparation of the operation area to be carried out; (2) it ensured that the portion of bowel repaired could be kept absolutely at rest during healing; and (3) it prevented re-infection of the operation area from the fæcal stream The steps of the operation performed were illustrated with the epidiascope.—Remarks were made by the PRESIDENT and Dr. GILES.

PATHOLOGICAL SECTION.

Lesions of the Kidney in Ulcerative Endocarditis.—"Eleidoma."

A MEETING of this section was held on March 17th, Dr. F. W. ANDREWES, the President, being in the chair.

Dr. J. F. GASKELL read a paper on the Lesions of the Kidney in Ulcerative Endocarditis. He said that such lesions were of two kinds, though both were attributable to the same mechanical cause—namely, the carriage of particles from the infected valves to the organ. If the particles were large septic infarction occurred; if the particles were small a form of nephritis was brought about due to the lodging of them in glomerular capillaries. Such lesions, in contra-distinction to those of glomerulo-tubular nephritis, in which the whole organ is affected, only affected a variable number of capillaries in a variable number of glomeruli. This form of nephritis had been claimed by Schottmüller, Libman, and others to be diagnostic of the infection of the heart valves by a certain streptococcus which they named streptococcus viridans, a type of infection which usually lasted some considerable time; it was probable, however, that, as Horder and others had shown, this organism was identical with the type of streptococcus found in normal saliva—namely, streptococcus salivarius. Dr. Gaskell's paper also supported the view that embolic focal nephritis was a very common accompaniment of infection of the heart valve by streptococcus salivarius. The typical lesions in the kidney had been reproduced in the rabbit during the course of ulcerative endocarditis produced by inoculation with streptococcus salivarius from the normal saliva.

Mr. S. G. SHATTOCK described a large tumour under the name "Eleidoma," which had been removed from the back by Sir William Fergusson, and was at present in the museum of the Royal College of Surgeons of England. It belonged to a group of neoplasms first clinically described by Edward Cock, of Guy's Hospital, in 1853. Sir James Goodhart had referred briefly to such from the anatomical side. Mr. Shattock had seen one or two, but they were rare. They were benign epithelial tumours arising in connexion with the hair follicles, and though benign closely resembled squamous-celled carcinomata in structure. He suggested the name "folliculoma." Calcification of the keratinising epithelium occurred in varying degrees, but it might be absent. They were not of the kind described by Malherbe (1881) as "calcifying epitheliomata of the sebaceous glands," which were keratinising and calcifying papilliferous cysts of the hair follicles. In birds there were peculiar "tumours" due to the retention of feathers in groups of follicles, accompanied with the accumulation of desquamated epithelium—ptero-follicular cysts, as distinguished from pilo-follicular. These were, however, more comparable to rhinophyma in the human subject than to the proper new formation—folliculoma. The peculiarity of the tumour exhibited was its remarkable opacity and whiteness. This was not due to

calcification, nor was it due to the kind of saponification which rendered the fat opaque in "fat necrosis." The last possibility was excluded by microchemical tests. The opacity remained after the action of ether and alcohol, and the addition of hydrochloric acid produced no change; there was no liberation of droplets of oleic acid from any calcium oleate present, such as occurred in fat necrosis. The singular physical characters were due to the presence of a skein in the epithelial cells, of vast collections of which cells the growth consisted. This skein occurred in cells answering to the stratum corneum; in some cells it was very loose and open, in others closer and finer. It apparently was the same in kind as the delicate feltwork in the cells of the stratum corneum of the thick epidermis from the heel. Using the term "eleidin" rather as a generic one than as meaning absolutely the granules and flakes in the stratum granulosum, Mr. Shattock ventured to name the tumour an "eleidoma," after Virchow's manner of using such a term as psammoma; for though the last was an endothelioma it was one in which a particularly large amount of calcification of the endothelial whorls was encountered; and the master had thought this of sufficient importance to deserve a distinctive name.

SECTION OF LARYNGOLOGY.

Exhibition of Specimens and Cases.

A MEETING of this section was held on March 6th, Dr. D. R. PATERSON, the President, being in the chair.

Dr. H. J. DAVIS showed the following:—

1. Pathological specimens of Tonsils from a case of Lymphatic Leukæmia in a boy aged 7 years.

2. Preparation from a child, aged 2, showing the left recurrent laryngeal nerve involved in a mass of lymphomatous glands.—Sir FELIX SEMON remarked upon the rarity of laryngeal paralysis in children as resulting from lymphomatous glands.—Dr. A. BRONNER, Mr. E. B. WAGGETT, Sir STCLAIR THOMSON, and the PRESIDENT also discussed the exhibit.

3. Photograph showing two primary sores on the lip and angle of the mouth of a patient aged 22.

4. A man, aged 70, with Necrosis of the Hard Palate since the age of 10 years.—The PRESIDENT suggested that the necrosis was due to congenital syphilis.

5. A man, aged 50, showing a large Pulsating Vessel on the Posterior Wall of the Pharynx.—Mr. W. D. HARMER thought that the vessel was an abnormally placed internal carotid artery, and related a case in which a complete coil of that artery was removed during the operation for adenoids.

6. A woman, aged 45, with Loss of Septum and Columella of Nose.—Dr. WILLIAM HILL, Dr. DAN MCKENZIE, Dr. F. DE HAVILLAND HALL, and Sir STCLAIR THOMSON discussed the case, and the PRESIDENT remarked on the support to the tip of the nose which is afforded by the lateral nasal cartilages.

7. A woman, aged 44, with Malignant Disease of the Ethmoid extending along the antral roof and perforating the maxilla at the outer angle of the orbit; two operations.

8. A woman, aged 30, with Redness, Infiltration, and Œdema of the Nose and both Cheeks of six months' duration; there was an empyema of the left antrum.—The PRESIDENT remarked upon the rarity of the typical signs of antral suppuration as described by the surgical text-books.—Dr. E. A. PETERS suggested that the condition was entirely due to a septic fissure which was present in the right nasal vestibule.

Mr. W. STUART-LOW exhibited a case of a man, aged 50, showing Columnar-celled Epithelioma of the Nasal Cavity and Left Antrum.

Mr. HERBERT TILLEY showed a Laryngeal Tumour; ? adenoma of right ventricular band. He stated that the pathologist's report showed that the condition was one of adenoma of laryngeal ventricle.—Mr. F. A. ROSE disagreed with the report upon the microscopical section shown with the case, and suggested that the condition was chronic inflammation.—Sir FELIX SEMON thought the case was tuberculous laryngitis.—Mr. E. D. D. DAVIS related a similar case, and stated that Mr. S. G. Shattock would not give a definite opinion upon the microscopical section; later the case showed signs of tubercle of lung.

Mr TILLEY also showed Frontal Sinus Burrs for enlarging the fronto-nasal canal when operating by the intranasal method.

Dr. DAN MCKENZIE exhibited a Maxillary Antroscope modelled on the cystoscope. He deplored the lack of detail obtained by this form of instrument, as did also Mr. ROSE, Mr. WAGGETT, Dr. W. H. KELSON, and Dr. PETERS.—The PRESIDENT stated that he gave up attempting to make use of this instrument eight or nine years ago.

Mr. C. W. M. HOPE showed two cases of Acute Suppurative Frontal Sinusitis due to bathing.

Dr. PETERS exhibited a case of Lupus of the Nose; lupus or chronic tuberculosis of the larynx commencing in the left ventricle; improvement with B. emulsion; pregnancy followed by relapse of local condition and consolidation of right lung.—Sir STCLAIR THOMSON related that it was not unusual for women with nasal lupus to develop phthisis after marriage and motherhood.

Dr. JAMES DONELAN showed a female, aged 26, with a Growth on the Left Vocal Cord.—Mr. TILLEY thought it a case of intrinsic carcinoma, and Dr. DONELAN suggested late recurring papilloma.

NORTH LONDON MEDICAL AND CHIRURGICAL SOCIETY.

Radium and Radiation as a Therapeutic Agent.

A MEETING of this society took place in the board room of the Great Northern Central Hospital on March 12th, Dr. T. WILSON PARRY, the President, occupying the chair.

Dr. W. S. LAZARUS-BARLOW gave a lecture on Radium and Radiation as a Therapeutic Agent. He said that finality was far from being reached upon many points in connexion with radiotherapy and indicated dosage as an example. Putting on one side the question of the injurious action of radium in sufficient quantity upon animal cells as being established beyond doubt, he addressed himself to certain propositions arising from that fundamental fact. Thus he pointed out that all varieties of cells were not equally injured by the same dose and suggested that in this fact might lie the explanation of the different degrees to which various growths responded to radium treatment. The crux of the whole radium question was whether radium acted upon a new growth in a different way from a thermocautery or a strong acid. There was some evidence that cancerous cells when irradiated short of death could induce an active immunity and he instanced the observations of Mr. Clifford Morson, Dr. B. H. Wedd, and Dr. Charles Russ in this connexion. If such an immunity reaction were produced it would probably be strictly specific for the individual, so that the production of an "anti-cancerous" serum analogous to antidiphtheric serum seemed highly improbable. He insisted upon the necessity of histological examination, and especially upon the importance of examination for Altmann's granules in the case of sarcoma, whenever radium was about to be used for a new growth. He further insisted upon the necessity of periodic examination of radium tubes by the physicist in order to be certain that radium was actually present in the quantity that the surgeon believed. He thought that besides its use in frankly inoperable cases radium should be tried in cases in which surgical operation, though not impossible, was notoriously unsatisfactory—e.g., malignant neoplasms of the tonsil. On the other hand, where surgery could show a fair percentage of success the use of radium in place of the knife was not indicated at the present time, whatever might be the case in the future. Certainly, upon experimental grounds, use of radium immediately after surgical removal of a growth appeared to be contra-indicated; this was not the case with X rays, and no explanation of the apparently different behaviour of the X rays and the closely allied gamma rays of radium could be given at present. Finally, he pointed out that when a growth had been absorbed after radium treatment the products of the disintegration of that growth must have been taken up into the system at large, and he suggested that so long as the individual had not eliminated these disintegration products it was indicated by pathology that he would be in an unsatisfactory condition for any surgical treatment.

The PRESIDENT thanked Dr. Lazarus-Barlow in the name of the society for a lucid and interesting lecture, and said that everyone present had paid great attention to the line of thought indicated.

Dr. H. C. G. SEMON, in the discussion which followed, desired to associate himself with the President in an expression of his very cordial appreciation of Dr. Lazarus-Barlow's exceedingly lucid and interesting lecture, and referred shortly to a case which amply illustrated the latter's warning against the use of radium immediately subsequent to surgical removal of malignant growths. A well-known surgeon recently removed an epithelioma from the pyriform fossa by lateral pharyngotomy in an old man of 74. Much against his inclination he was persuaded to insert a tube containing 100 mgm. of radium in the wound, which was partially left open for that purpose for a period of 24 hours. Ten days later, after primary union had taken place, the whole wound broke down and a slough of the size of half-a-crown formed in the pharynx and led to a fistulous communication with the exterior, a result which was entirely outside the very considerable experience of the operator, and one which in his opinion could only have been produced by the devitalising action of the radium emanations on the normal tissues. Regarding the quantity of radium best employed as a dose at the present time Dr. Semon quoted from the experiences of Professor Bumm and Professor Döderlein,[1] who had had considerable experience in the treatment of malignant disease of the cervix and uterus. These authors had entirely given up the use of large doses and their practice was to use not more than 50 to 60 mgm. of the salt at any one application. Professor Bumm had stated that 300 mgm. doses would produce a rise of temperature as high as 106° F. in a few hours, and that 500 mgm. were positively dangerous to life. Dr. Semon asked if Dr. Lazarus-Barlow could support this statement from his own experiments, and also whether his opinion of lead filters coincided with that of Professor Bumm, who had stated that they should never be used because of the dangerous secondary radiations produced in them by the γ rays. This author maintained that they were the probable cause of the hyaline degeneration of normal fibrous tissue, which not infrequently followed the application of radium after a latent period of six months to a year, and which had in consequence of the production of hard strictures led to the erroneous belief that a malignant recurrence was in course of development. Dr. Semon asked if the lecturer had ever met with this complication.

Dr. W. A. MALCOLM asked Dr. Lazarus-Barlow how it was that X radiation was of such undoubted value in recurrent nodules after breast operations, whereas the contrary was true of radium.

Mr. CECIL ROWNTREE quoted a case of periosteal sarcoma of the femur in a woman, where the growth had not been much affected by radium, but where the effect on the patient was wonderful, for instead of being bedridden she could walk up and down the ward and was quite cheerful.

DEVON AND EXETER MEDICO-CHIRURGICAL SOCIETY.

Diseases of the Œsophagus.

A MEETING of this society was held at the Royal Devon and Exeter Hospital on Feb. 20th, Dr. RANSOM PICKARD, the President, being in the chair.

Dr. WILLIAM HILL (London) gave a lecture on Modern Methods of Diagnosis and Treatment in Diseases of the Œsophagus, with especial reference to the Employment of Radium in Malignant Stricture. After demonstrating the method of inspection by œsophagoscopy and œsophago-gastroscopy on patients under cocaine anæsthesia, 100 lantern slides were shown illustrating the following points: 1. The mode of formation, anatomical characteristics, radiographic and œsophagoscopic diagnosis and treatment of so-called "œsophageal pouches" (pharyngeal diverticula), with skiagrams of six cases under the author. 2. The diagnosis and treatment of foreign bodies. 3. Non-malignant strictures, with special reference to treatment by various methods of dilation and by intubation. No unequivocal case of idiopathic spasm—e.g., cardiospasm—had been met with in the author's large experience. 4. Various types of malignant stricture. 5. The forms of radium apparatus employed by the author, their method of introduction, statistics of results, and skiagrams taken before and after treatment. The improvement in many instances was not only marked as regards subjective symptoms, but was objectively shown by the œsophagoscope and by radiography. All present had an opportunity of observing through the œsophagoscope a stricture, formerly fungating, which had been held in check for four years by eight applications of radium made at intervals.

At the termination of the lecture a vote of thanks, proposed by Dr. W. GORDON, and seconded by Mr. R. A. WORTHINGTON, was awarded to Dr. Hill by acclamation.

Treatment of Uterine Myomata by X Rays.

A MEETING of this society was held at the Royal Devon and Exeter Hospital on March 13th, Dr. PICKARD, the President, being in the chair.

Dr. J. DELPRATT HARRIS read a paper on the Treatment of Uterine Myomata by X Rays. In this it was stated that hitherto after the continued use of styptics and prolonged rest there remained to the family attendant no other course but that of hysterectomy as the last resource. No one could approach this operation with feelings of satisfaction until all other means had been given a fair trial. Within the last few years, however, a third course of procedure had been coming to the front, that of treatment by the therapeutic use of X rays. Although many technical considerations intervened relative to bulk, depth, and dosage, they would appear to have crystallised into two main schemes of treatment, the French scheme brought into existence and elaborated by Dr. Bordier of Lyons, more particularly; and the German scheme elaborated by Albers Schönberg of Hamburg, and Gauss of Freiburg, and others. Looking at this form of treatment by X rays from the point of view of the family practitioner, it should be noted that the patient might be up and about, as far as hæmorrhage would allow, if that was a prominent symptom. The patient should have a sitting every day or every other day for nine sittings. These nine sittings constituted a cycle. It was wise to allow 21 days to elapse, when a second cycle should be given. This might be repeated five or even six times, but it was rarely necessary to exceed this number of cycles, for the treatment seemed to be cumulative, and shrinking seemed to go on after the treatment was left off. The sittings were conducted so that the uterus and tumour received a dose of X rays of about one to two milliampères; at the second sitting the right ovary was treated; at the third the left; at the fourth the uterus and tumour again; and so on. In particular cases the patient might be turned on her face and hands, and the posterior aspect of the tumour similarly treated through the sacrum and sciatic notches. Under this system an artificial menopause was brought about, and the patients suffered from flushings, whilst the tumour notably shrank in size, but not always to disappearance, whilst hæmorrhage was abolished, and the patients expressed themselves as feeling better. The German system did not differ in principle from the French, but their tendency seemed to be to give the heaviest possible dose from multiple cross-fire directions for a few days or even hours with a long interval of rest when the course was repeated. In each form of treatment careful filtering of each dose is carried out with 2 mm. to 3 mm. of aluminium. The notes of four cases were read, in each of which notable improvement had occurred, and artificial menopauses established with the usual climacteric symptoms of flushings, with shrinking of the tumour. Thus one case, 39 years of age, commenced treatment in August, 1912. In May, 1913, she was able to undertake all her household duties, looking and feeling quite well. Another case commenced treatment in October, 1912, and in December slight hæmorrhage occurred, but none after. She was able to attend to her household duties after the fifth cycle. In a third case a woman of 43 was similarly treated. It was commenced in September, 1912, and in April, 1913, it was noted that the menopause was complete for four months. It had commenced in the third cycle. In July, at the end of the fourth cycle, she had a period lasting 36 hours only. In the fourth case a woman of 49 had a fairly large fibroma occupying the position of a seven months' infant. Although, as in all the other cases, hæmorrhage was a marked feature, it ceased during the first cycle and did not return. In each of these cases the appearance of exsanguination gradually changing to that of health was most satisfactory.

Dr. F. A. ROPER reported the case of a widow, aged 42, suffering from a somewhat rapidly growing fibromyoma.

[1] Brit. Med. Jour., Dec. 13th and 27th, 1913.

uteri. The chief symptom complained of was pain at the monthly periods, so severe that she was prostrated for four days at every period, and no doubt partly resulting from this she was in an exceedingly neurotic state. The fibroid was estimated to be larger than a croquet ball. Treatment was commenced on May 9th, 1913, on the lines of the Hamburg school, series of five irradiations through five portals of entry—two behind and three on the abdomen—being given on successive days, a clear fortnight elapsing between each series. Seven series were given, a filter of 2 mm. aluminium being used. A sitting comprised five to ten minutes with current 3 to 6 ma. After one normal and two scanty periods six months' amenorrhœa resulted, with complete relief of pain, and shrinkage and sclerosis of the tumour to the size of a tangerine orange. Menopausal symptoms appeared which were relieved on the reappearance of the menstrual flow, which was unaccompanied by pain. There was no trace of dermatitis save slight browning. Comparing this method with that of Professor Gauss, Dr. Roper preferred it on account of the fact that the results were in every way as good as those of Gauss. The excessive doses given by the Freiburg school were, therefore, unnecessary.

In the discussion which followed the reading of these two papers Mr. F. W. LANGRIDGE remarked on the resemblance between the uterus and the prostate gland, and asked the readers of the papers whether they had extended the treatment to cases of prostatic enlargement.

Dr. GORDON considered that Dr. Harris was a pioneer in England as regards this treatment, and related a case where mitral stenosis in conjunction with fibromyomata made the operation undertaken for the latter to be fraught with the gravest anxiety. He asked the reason why Bordier considered those cases which have ceased to menstruate unsuitable for treatment.

Mr. C. E. W. BELL alluded to the method of Apostoli where glowing accounts were at first published, although nothing was now heard of this treatment.

Mr. A. L. CANDLER advised that women aged 40 and upwards suffering from fibromyomata, who were blanched from hæmorrhage, should be treated by X rays, and later on have the fibroids removed to guard against possible malignancy in the future. He regarded the X ray treatment as a preliminary to operation.

Dr. R. V. SOLLY stated that tumours of the prostate were frequently composed largely of adenomatous tissue which would be affected by X rays to a very slight extent.

Mr. A. C. ROPER, speaking from the surgeon's point of view, expressed the relief he would feel when freed from the overwhelming responsibility of doing serious operations on cases weakened and depoverished by hæmorrhage. The advantages of X ray treatment were: (1) saves risk of operation; (2) saves necessary rest of six months after operation; (3) the course of six months' treatment less costly, no nursing required, no absolute rest in bed, no risk, and steady improvement. He considered the German method to be most convenient where sittings follow daily.

Dr. HARRIS, in his reply, stated that X rays had a beneficial effect on the enlarged prostate, and that zinc ionic treatment through the rectum had also proved useful. Apostoli's method was merely a form of ionisation of fibroids.

Dr. R. EAGER reported a case of Aneurysm of the Left Ventricle bursting into the pericardium. There was much atheroma of the aorta. He also showed the heart and aorta of a case where rupture of the aorta had taken place into the pericardial sac. There was a specific history in this case.

EDINBURGH OBSTETRICAL SOCIETY.

Etiology of Eclampsia.—The Registration of Stillbirths.

A MEETING of this society was held on March 11th, Sir J. HALLIDAY CROOM, the President, being in the chair.

Dr. JAMES YOUNG, in a paper and epidiascopic demonstration, discussed the Etiology of Eclampsia. He referred to the well-recognised fact that albuminuria and eclampsia were especially apt to be associated with red infarcts in the placenta. As, however, eclampsia was found with an apparently healthy placenta, and no toxæmia where there was definite infarction, the association remained somewhat of a mystery. It was usually believed that the infarction was merely to be looked upon as an accompaniment or as a result. Dr. Young showed from many points of view that infarction was due to involvement of the maternal vessels and not to disease of the fœtal vessels. It had long been known that the chorionic elements could live where there was no fœtal circulation—e.g., in the early trophoblast, in hydatid mole, and in chorion epithelioma. In accidental hæmorrhage, which was known to be especially associated with albuminuria and eclampsia, he showed evidence of placental disease in apparently healthy placentæ. This disease would only be possible where a certain time had elapsed between the hæmorrhage and the removal of the placenta. In this way it was possible to explain the fact that in only 50 per cent. of the cases was there a toxæmia. Dr. Young referred to experimental proof of his thesis that the placenta was the source of the poison. He had isolated a substance from healthy placentæ, which had been appropriately treated, that induced severe convulsions in animals and, in addition, focal necrosis in the liver, a change that was recognised to be especially characteristic of eclampsia.—The PRESIDENT stated that he had learned a great deal. The villus if cut off entirely from the fœtal supply could live in healthy maternal blood. Dr. Young had shown that infarcts were surrounded by blood clots and had also shown that these blood clots pressed upon the surrounding parts of the placental tissue, and by so doing destroyed its vitality. This degenerated part of the placenta was the source of the toxin which caused eclampsia. That point of view had not been presented before. If it be that this toxin was the cause, then Dr. Young had proved his case, because he had shown that he could produce very similar changes in animals. If this were so, a very great advance had been made in the demonstration of the cause of eclampsia. It was, however, a mystery still. With regard to accidental hæmorrhage, he was not so sure that only 50 per cent. were associated with albuminuria.—Dr. D. BERRY HART asked where the toxins came from in the infarct. The toxins were in the blood and also the tissue. The toxin was deposited in the clotted blood before the infarct took place. He did not think that Dr. Young could say that these infarcts were the cause of the eclampsia; if that were so they should at once deliver the women and remove the placenta.—Dr. W. FORDYCE said that in eclampsia certain changes occurred in the liver and kidneys, and he thought Dr. Young had brought no proof to show that the poison was from the placenta any more than from the liver and kidneys.—Dr. R. W. JOHNSTONE asked how Dr. Young applied his theory to the cases where eclampsia occurred after delivery.—Dr. H. OLIPHANT NICHOLSON, Dr. J. W. BALLANTYNE, and Dr. A. C. GUTHRIE discussed the paper.—Dr. YOUNG, in his reply, stated that in the experiments he employed healthy placentæ specially treated to reproduce the diseased condition.

Dr. BALLANTYNE read a paper on the Registration of Stillbirths. He said that the first difficulty was one of definition. Notification was giving notice or making intimation; registration implied declaration and inscription. The Notification of Births Act of 1907 required notice within 36 hours; registration within 42 days. The Notification of Births Act had been adopted only in 316 out of the 1822 Local Government areas in England and Wales; but these areas represented 18,000,000 persons out of a total population of 36,000,000. The persons upon whom the duty of declaring the birth was laid differed in the two cases. The Notification of Births Act went further than the Registration of Births Act of 1874, by calling for declaration of birth with respect to children born alive and to those born dead after 28 weeks' gestation. This involved, therefore, registration of a certain number of stillbirths. By far the most valuable contribution which had been made to the proper understanding of stillbirths and their registration of recent years was that contained in the Report of the Special Committee of the Royal Statistical Society on Infantile Mortality of December, 1912. The committee received replies from 103 registration officers all over the world. The registration of stillbirths was not compulsory in Great Britain and in certain of her dependencies, in Denmark, and in a few of the individual States of the United States of America. Numerous countries had compulsory registration of stillbirths; Great Britain and Ireland had been singularly dilatory in taking steps to acquire powers to discover the stillbirth rate in the population. The Statistical Society's committee stated that, as far as

could be ascertained, no legislature had up to the present enacted any definition of stillbirth. It was desirable that an international definition of stillbirth should be adopted. Some countries demanded that all births, alive or stillborn, should be registered—in Japan even a fœtus after four months' gestation. There was a very great difference in the regulations in the different countries of what were considered stillbirths. A great part of the confusion depended on the lack of a correct view regarding ante-natal life. There were an ante-natal life and a post-natal life; and there was one great differentiating character—the respiration. In ante-natal life tissue respiration was dependent on the placenta; in post-natal life it was a pulmonary one and dependent on the atmosphere. If viability be chosen as the delimiting age, then he (Dr. Ballantyne) would prefer 24 weeks instead of 28 weeks, as every improvement in the construction of the *couveuse* and every advance in the feeding of the premature infant might alter the age of viability and make it earlier. But he was ready to concede 28 weeks for the sake of uniformity. "Completely born" required definition; it was when a child's head, trunk, and limbs were all outside the vulva; it was not necessary that the cord should be divided or the placenta expelled. "Dead-born child" should be applied to a child which after complete expulsion from the body of its mother showed that it had ceased to exhibit the signs of ante-natal life at some period prior to labour. Of course, the great sign of ante-natal death was to be looked upon as maceration. Ulceration was in no degree putrefaction. There were also those children who had died in the birth, whose hearts could be heard at the beginning of labour but who showed no signs of ante-natal life at the moment of birth; these might be called "dead-in-birth children" and the condition "intra-natal death." There were two groups of stillbirth—one which passed into post-natal death, and the other which was resuscitated by the efforts of the medical attendant. But resuscitation was not an accurate term—its meaning was restoration to life; but in these infants it was not so much a restoration as a substitution of one form of vitality for another. Dr. Ballantyne suggested the word "trans-animate," though it was not quite satisfactory. "Stillbirth" should be limited to those which have not assumed the characteristic phenomena of post-natal life. There was great necessity for the compulsory registration of these ante-natal and intra-natal deaths. Great Britain and Ireland stood almost alone among the civilised nations of the world in neglecting this attempt to discover how many lives in their population were lost before and at birth. The cause of these deaths, if known, could be added on the registration form. There had been a great reduction in infantile mortality during the first year of life since special attention had been directed to it. A Stillbirths Registration Act would give statistics and rouse effort to the greater care of the ante-natal child and to the prevention of congenital diseases. It had been calculated that no less than 35 per cent. of the total mortality under one year of life was due to congenital disease.—Dr. Ballantyne's paper was referred to the council for consideration and report to the May meeting of the society.

UNITED SERVICES MEDICAL SOCIETY.—A meeting of this society was held on March 12th, Colonel Bruce M. Skinner, M.V.O., A.M.S., the President, being in the chair.—Major E. T. F. Birrell, R.A.M.C., read an interesting paper entitled "Some Experiences of the Balkan Wars." Major Birrell went out to the Balkan wars under the British Red Cross Association, and was appointed by them commandant for the Red Cross services in Bulgaria. Two units were despatched to Bulgaria, each consisting of three surgeons, four dressers (medical students), and 12 men as nursing orderlies, general duty orderlies, and cooks. The equipment of each section was practically the medical and ordnance equipment of a section of a field ambulance without tents or vehicles, but with the addition of the then field pattern of X ray apparatus, a small petrol engine, and some special surgical equipment. The units on arrival at Sofia received orders to proceed to the front and open a hospital there. The journey as far as Jamboli was accomplished by rail. During the journey three types of ambulance trains were met with: (1) In Servia a specially fitted up train, consisting of covered baggage wagons for the patients, painted white with red crosses, and each fitted inside with eight wooden berths in two tiers, besides ordinary passenger coaches for the surgeons and attendants; (2) in Bulgaria ordinary passenger coaches, the wounded sitting or lying on the seats; and (3) ordinary baggage wagons, with straw or matting for the patients to lie upon. Major Birrell described the journey by road to Kirk Kilisse from Jamboli, and the difficulty of getting the men together in the morning when distributed overnight in billets. When the units arrived at Kirk Kilisse the wounded were just beginning to come in from Chatalja, where heavy fighting was going on; the slighter cases came first, but many looked worn and hungry, and many of the more severely wounded arrived with their bandages soaked with pus and blood. The hospitals were crowded even to the passages and landings. The Red Cross units were given a building in which to set up their hospital. Convoys of wounded were organised from time to time, the vehicles used being bullock and buffalo carts, both of which were innocent of any springs. The wounded were simply placed on fodder on the floor of the wagon. Very severe cases were, however, generally placed on litters with high sides and thick mattresses, which minimised the jolting considerably; as far as is known no medical *personnel* accompanied them, certainly no doctor, but at many stations the Bulgarian Red Cross Association had established rest camps, or at least places where bread could be obtained. The great problem at Kirk Kilisse was the supply of water. There was none laid on to the hospital; the supply had to be carried in barrels on bullock wagons. For drinking purposes the water was purified by the addition of bisulphate of soda; no ill-effects could be traced to the drinking water. Flies were a great pest; they swarmed in the tents and hospital; no attempt could be made to destroy the breeding-places of the flies, as these were too widespread. Cholera and enteric fever were the diseases of most interest, though no cases of the former came to the hospitals at Kirk Kilisse, but at Chatalja there were some 23,000 cases with 3000 deaths—a very low death-rate. Enteric fever was fairly common during the first war, but in the second only one case was seen. Most of the cases during the first war were treated in the Russian hospital by Dr. C. Clarke, with vaccine provided by the Royal Army Medical College. The results were very satisfactory, and Dr. Clarke is going to publish them. The Bulgarian war ration was satisfactory as regards its energy value. A most interesting point, however, was the sugar hunger, from which both staff and patients suffered. Regarding the effects of the sharp-pointed Turkish bullet, there did not appear to be any difference in the character of the wounds when compared with those from the ogival-tipped Servian bullet. All the wounded were septic. Among the wounded received from Chatalja, those in which there was any likelihood of hæmorrhage had been plugged, and this was a very fruitful cause of sepsis. In both wars the value of iodine as an antiseptic was abundantly proved. A watery solution was used and this was found to be very satisfactory. The use of iodine has been condemned by foreign observers in the Balkan wars; this was no doubt due to the abuse of the drug which was noticed. The favourite Bulgarian application to a wound was a strong alcoholic solution of iodine on a swab on the end of a stick, and the result was a blackening of the raw surface and a total absence of granulations. The value of the X rays was enormous; not only was time saved in diagnosis, but the treatment was rendered easy and accurate.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held at the Leeds General Infirmary on March 13th, Dr. T. Wardrop Griffith, the President, being in the chair.—Dr. W. H. Maxwell Telling read a paper entitled "A Plea for the More Systematic Employment of Treatment by Suggestion." He urged the desirability of the profession making a serious study of the methods of suggestion and psychotherapy so that they might be employed with precision instead of indeliberately and unscientifically as at present. While pointing out that hypnosis was one branch of psychotherapy and occasionally useful, he said that in his experience it was but seldom required, and had positive drawbacks in many cases. More permanent results could be obtained by the method of Dubois—by explanation to and re-education of the patient by graduated conversations. He pointed out the great benefit that resulted from the employment of deliberate suggestion in regard to hospital cases. He also emphasised the fact that the "rest-cure" had been largely used in unsuitable

cases with consequent aggravation of the symptoms; more often a "work-cure" was required for the restoration to normal of the patient's perverted over-attention to his own ailments.—Dr. R. G. MacD. Ladell showed an unmarried woman, aged 41, who had a history of occasional vomiting over two years, gradually increasing in frequency. The patient became very emaciated. Drug treatment, &c., had no effect. Laparotomy was performed in July, 1912; no morbid condition was found, and nothing was done beyond dividing some peritoneal adhesions. Slight improvement was followed by a relapse to the former state. She was treated by hypnotic suggestion in January, 1913. Deep sleep and amnesia were obtained from the first with definite improvement. There was complete cure after about a dozen sittings, and no relapse had occurred to date. —Mr. W. Thompson showed:—1. Two Calculi which were impacted in the ureter near the base of the bladder, and which had been removed by the extraperitoneal operation. 2. A calculus impacted in the ureter. The case had been regarded as one of appendicitis and appendicectomy had been performed, but the symptoms persisted. The diagnosis was cleared up by X ray examination.—Dr. C. Oldfield showed a specimen of Ectopic Pregnancy which continued to the sixth month of gestation. The patient, aged 30, was dilated and curetted a year ago for sterility. Six months ago she missed her period for the first time; three weeks later she began with symptoms (chiefly vaginal blood discharge and pelvic pain) which continued with intervals up to December, 1913. Abdominal symptoms with more bleeding from this date to the present were the leading features. The physical signs resembled those of a retroverted gravid uterus for which it had been mistaken. At the operation a partly macerated sixth month fœtus lay free amongst the small intestine. The placenta was large and infiltrated with blood clot, was attached to the pelvic organs, and firmly adherent to the right tube. This, the site of original implantation, was removed with the placenta attached. Separation of the placenta resulted in free hæmorrhage, which soon stopped. The abdomen was closed without drainage, and the patient is making satisfactory recovery.—Mr. S. W. Daw gave a demonstration of a method of reducing intussusception by forceps dilatation at the point of constriction.—Dr. A. H. Miller demonstrated a method of growing tubercle bacilli on media prepared from sperm oil and other waxy substances.—Mr. J. F. Dobson showed specimens from some cases of Nephrectomy. In one case a closed tuberculous pyonephrosis on the right side, probably of many years' duration, was associated with tuberculous disease of both testicles and of the prostate. After investigation of the secreting capacity of the left kidney by cystoscopic examination the diseased kidney was removed. The patient improved very quickly after the operation, and the painful enlargement of the testicles diminished rapidly.

ÆSCULAPIAN SOCIETY.—A meeting of this society was held on March 20th, Dr. David Ross, the President, being in the chair.—Mr. R. M. Vick showed: 1. A girl, aged 6, with a Tuberculous Abscess over the Lower End of the Radius, and its skiagram. 2. A boy, aged 4, with a Periosteal Tuberculous Abscess over the Iliac Crest, and its skiagram. 3. A man, aged 24, whose right testicle and epididymis were enlarged and tender, and whose right prostatic lobe was enlarged. There was a history of 18 days' duration and none of gonorrhœa. 4. A skiagram of a Transverse Fracture of the Patella in a man with no other symptom than stiffness on extreme flexion of the knee. 5. A baby with two fifth toes on each foot. The skiagram showed the related metatarsals were nearly double the normal width. 6. A young woman with a Perforation of the Soft Palate, whose Wassermann reaction was positive. 7. A man, aged 45, with Internal Strabismus, who suffered an intracapsular fracture of the femur as a boy; is now the subject of phlebitis of the internal saphena, and has both testes atrophied.—Dr. A. Feiling showed: 1. A man aged 46, with the typical signs of Pseudo-hypertrophic Paralysis that began 20 years ago. There was a family history of the disease. 2. A man, aged 40, with Graves's disease without exophthalmos, with hand tremors on extension, an enlarged thyroid, and pulse varying between 108–116, in whom there had been recurrent attacks of tonsillitis. 3. A woman, aged 47, who had marked Right Hand Tremor of large excursion and some of the left hand of less excursion which developed in a night and has continued for two and a half years. The right grasp is weaker than the left. The right leg drags a little in walking. Dr. Feiling thought a vascular lesion at the base of the mid-brain the probable pathology. 4. A woman, aged 67, of wooden facies, with Tremor of both Hands when at rest and some rigidity of the arms due to paralysis agitans.

BRISTOL MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on March 11th, Dr. P. Watson-Williams being in the chair.—Dr. D. A. Alexander showed a case of Varicosity of the Collateral Venous Circulation as a result of thrombosis of the common iliac vein during enteric fever.—Dr. F. H. Edgeworth read notes on a case of Enlarged Thyroid with Tachycardia. He did not regard the case as one of Graves's disease owing to the absence of wasting and the regularity of the heart's action, and also the fact that the administration of thyroid extract cured the condition. He suggested that the tachycardia was possibly due to pressure of the thyroid on the vagi.—Mr. C. F. Walters described four cases in which he had tried the autoplastic intramedullary bone pegging of fractures. A portion of the patient's tibial crest was used to manufacture the peg. The method was not successful, union being slow and faulty, and in two of the cases fracture of the tibia resulted from weakening at the site of removal of the peg.—Mr. E. W. Hey Groves showed a loan collection illustrating the operative treatment of fractures, and emphasised the advantage of bolts which go right through the bone over screws which soon become loose.—Mr. Greer stated that he considered that the use of bolts involved too extensive a trauma and too long an operation. He had found Lambotte's apparatus of great use.—Mr. W. Sheen said that he was doubtful of the final result in operated cases, and considered that bad anatomical was frequently found in conjunction with good functional result.

MIDLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held in Birmingham on March 3rd, Mr. Christopher Martin, Vice-President, being in the chair.—Dr. C. E. Purslow showed a specimen of Pyometra due to Intracervical Cancer. The specimen was removed from a multipara, 59 years of age, who complained of irregular hæmorrhage of 15 months' duration following several years' amenorrhœa. There had also been difficulty in micturition. On examination, a symmetrical tumour was found reaching above the pubes and filling the pouch of Douglas. This was diagnosed as an enlarged and retroflexed uterus. The cervix was situated high up behind the pubes, and only the posterior lip could be reached by the finger. This was normal. A degenerated fibroid was suspected, and it was not until the abdomen was opened that the exact nature of the disease was recognised. Panhysterectomy was performed, and the patient made a good recovery. The unusual features of the case were the large size of the pyometra, the uterus containing two pints of foul-smelling pus, and the fact that the cervical carcinoma could not be felt on digital examination per vaginam.—The case was discussed by Mr. F. Edge, Professor Thomas Wilson, Mr. L. Kirkby Thomas, Mr. H. Beckwith Whitehouse, and Mr. Martin.—Mr. J. Furneaux Jordan showed a specimen of Double Ovarian Cystic Tumour of intraligamentary development.—A discussion followed, in which Professor Wilson, Mr. Edge, Dr. Purslow, Mr. Martin, and Mr. Jordan took part.—Professor Wilson showed a specimen of Diffuse Ovarian Suppuration with Tubo-peritoneal Cyst.—Mr. Martin, Mr. Jordan, Dr. Purslow, and Mr. K. M. Pardhy entered into the discussion of this case.—Mr. Edge showed a specimen of Carcinoma of the Ovary with metastasis at base of the appendix vermiformis.—The case was subsequently discussed by Mr. Whitehouse and Mr. Edge, and the specimen was referred to a pathological subcommittee consisting of Mr. Whitehouse, Mr. Edge, and Mr. Smallwood Savage.—Professor Wilson read a short communication upon Concealed Accidental Hæmorrhage: Cæsarean Section: Recovery. The specimen, consisting of a uterus removed by Cæsarean hysterectomy, was of particular interest, inasmuch as it showed extensive subperitoneal and intramuscular hæmorrhages. These were most evident at the uterine cornua. Microscopical preparations showed extreme degeneration of the myomatous elements in the uterine wall. The degeneration appeared to be hyaline, but its exact nature was so far undetermined. The case was of considerable interest because it raised

several new points in the pathology and causation of the hæmorrhage in this condition.—In the discussion which followed Mr. Martin, Mr. Jordan, Mr. Savage, Mr. Edge, and Dr. W. H. C. Newnham took part.—Mr. Edge read a short communication upon a case of Inversion of the Uterus. The patient, aged 26, a 3-para, was admitted to the Women's Hospital, Birmingham, on August 17th, 1913. Five days previously she had given birth to her fourth child and had been attended by a midwife. No exact details were obtainable as to what had previously transpired, but she was sent into hospital as a case of puerperal fever following post-partum hæmorrhage. On admission the woman was acutely ill, with a pulse of 160 and temperature 104° F. Preparations were made for obtaining a swab from the uterine cavity, but upon vaginal examination a rounded mass was felt within the vagina. Bimanually the uterus was absent, and a diagnosis was made of "uterine inversion." It seemed hopeless to perform any abdominal or vaginal section. Nevertheless, by dilatation of the cervix from above and reduction of the parts last inverted the condition was gradually reduced. The uterine cavity was cleansed with hydrogen peroxide and packed with iodoform gauze. The following day the patient's temperature was 105° and the pulse 150. She was treated with polyvalent antistreptococcic serum and eventually made a perfect recovery.—Mr. Martin, Mr. Jordan, Dr. Purslow, and Professor Wilson took part in the discussion upon this case.

Reviews and Notices of Books.

Acute Abdominal Diseases, including Abdominal Injuries and the Complications of External Hernia.

By JOSEPH E. ADAMS, M.B., M.S. Lond., F.R.C.S. Eng., Senior Assistant Surgeon, East London Hospital for Children, &c.; and MAURICE A. CASSIDY, M.A., M.D., B.C. Cantab., F.R.C.P. Lond., Physician with Charge of Out-patients, St. Thomas's Hospital, &c. London: Baillière, Tindall, and Cox. 1913. Pp. 541. Price 12*s.* 6*d.* net.

THERE is hardly any more difficult department of medicine than the acute affections of the abdomen, especially as regards diagnosis, and as the affections include some which may be called medical and also many which are undoubtedly surgical, the subject can be adequately treated only by the combined efforts of a physician and a surgeon. Therefore we consider that the authors have done well to collaborate in the production of this volume, and the result is in every way satisfactory. The chapter on the anatomy of the abdomen is adequate, and we are glad to see that special attention has been paid to the peritoneal fossæ, which are the cause of some of the most puzzling of the acute abdominal conditions. The chapter on the investigation of the abdomen is well written, and should afford useful assistance to the inexperienced. The value of the information given by a leucocyte count is emphasised, but the authors point out that Cabot has shown that in bleeding gastric ulcers without any perforation the leucocytic count may vary from 12,000 to 24,000 in 27 per cent. of the cases.

The chapter on laparotomy is admirable. We agree entirely with the advice given that it is very undesirable, if it can possibly be avoided, to move a patient with an acute abdominal condition for the purpose of operation. While it is generally necessary to take the poorer patients from their homes to the hospital, for an operation is usually impossible at their homes, in the case of private patients it is much better not to require the removal even to a nursing home, for an abscess may give way and a fatal general peritonitis may result.

In the chapter on intestinal obstruction we find an interesting table in which 500 cases of obstruction occurring at St. Thomas's Hospital are analysed; from this table it appears that in more than one-third of the cases the condition present was intussusception; carcinoma of the cæcum and colon formed 15 per cent.; and adhesions provided 12 per cent.; but no other cause gave rise to more than 10 per cent. of the cases.

After the subject of intestinal obstruction has been fully treated the various abdominal organs are taken in turn, and the conditions which may cause acute abdominal symptoms are discussed. Appendicitis naturally occupies a very large portion of the space, and the authors express the opinion, which is indeed held generally now, that immediate operation is always indicated. The chapter on the complications of external hernia is good, and we would especially draw attention to the chapter on abdominal injuries, by no means the least difficult of the conditions giving rise to acute abdominal symptoms. The final chapter is important, for it deals with diseases which simulate acute abdominal lesions. We agree with the authors that an examination of the chest, of the knee-jerks, and of the pupils should never be omitted in any case in which the question of a laparotomy has arisen.

We have been very pleased with this book; it is a clear exposition of a very difficult subject.

Beri-beri.

By Captain EDWARD B. VEDDER, A.M., M.D., of the Medical Corps of the United States Army. With numerous illustrations in the text and 5 coloured plates. London: John Bale, Sons, and Danielsson. 1913. Pp. 427. Price 18*s.* net.

THIS work, to which was awarded the Cartwright Prize of the Medical Department of the Columbia University, New York, for 1913, has been published by permission of the Surgeon-General of the U.S. Army. The book, so far as we are aware, is the first complete work of its kind to be issued in the English language dealing with beri-beri in the light of the many recent discoveries and marked advances in our knowledge of this hitherto baffling disease. The author is well known as an experimental investigator of the malady, concerning which he has published many interesting papers in the *Philippine Journal of Science*. He has also had exceptional opportunities for becoming practically acquainted with the disease while acting for some continued time as a member of the U.S. Army Board for the study of tropical diseases as they exist in the Philippine Islands, where, as in other parts of the Far East, beri-beri has played havoc among the natives, and especially among the coolies employed on plantations and estates. Captain Vedder defines the malady as an acute or chronic disease characterised by changes in the nervous system, and particularly by multiple peripheral neuritis, resulting from faulty metabolism, usually seen only in those persons who eat rice as a staple article of diet, and directly caused by the deficiency of certain vitamines in the food. The value of the researches made by Fraser and Stanton in the Federated Malay States is acknowledged, as also those of Casimir Funk of the Lister Institute and others, including such pioneers as Eijkmann and Braddon.

The book comprises 16 chapters in which are given a short history of beri-beri, its distribution, prevalence, pathology, and symptomatology; the question of rice and its preparation for human

food; the etiology of the malady, and whether it is to be regarded as a specific disease caused by an intoxication, or an infection, or is due to some deficiency of an essential element in the dietary; polyneuritis gallinarum and the beri-beri of animals; infantile beri-beri, ship beri-beri, and epidemic dropsy. Certain theoretical and practical considerations are also discussed, including the prevention of the malady. The author in his conclusion suggests the appointment of an international commission of delegates representing the great nations interested in the prevention of beri-beri, to discuss the advisability and practicability of generally extending the use of undermilled or unpolished rice by means of a tax levied by all nations on highly milled or polished rice, or by any other better method devised by the commission. Included in the book is a very extensive bibliography of beri-beri, and although the author states that it is "not absolutely complete" it cannot be far off, for it contains nearly 1000 separate references from all parts of the world where beri-beri has been observed.

We warmly commend this volume to all who wish to study the etiology of this dangerous disease and the data on which the modern treatment and prophylaxis of the malady are based. The book appears at a very opportune time and should find many readers.

Manual of Operative Surgery.

By JOHN FAIRBAIRN BINNIE, M.B., C.M. Aberd., Surgeon to the General Hospital, Kansas City, Mo., &c. Sixth edition, revised and enlarged, with 1438 illustrations, a number of which are printed in colours. London: H. K. Lewis. 1913. Pp. 1251. Price 30*s.* net.

IT is by no means easy to find words of greater praise to bestow on this edition of this work than we employed for the earlier issues. The book is indeed improved, for it contains several new operations; but it was for all practical purposes perfect before. Whoever criticises this work must first understand its idea, which is to include much that is not to be found in the ordinary text-books of surgery and to exclude much which the text-books contain. It is intended to provide the practising surgeon with information he may need in the performance of an operation; it gives the various methods which have been and are still employed, but only in such detail as a surgeon would require; it omits much that is known to all surgeons. The work is unique, and it should prove in the future as it has proved in the past of the greatest assistance to all who wish to know the various methods of doing an operation. The book now includes several sections omitted in some of the earlier issues, and we commend it to all who operate.

Lehrbuch der Nervenkrankheiten für Aerzte und Studierende.

Von Professor Dr. H. OPPENHEIM, in Berlin. Sechste wesentlich vermehrte und verbesserte Auflage. Mit 523 Abbildungen im Text und auf 14 Tafeln. Two volumes. Berlin: S. Karger. 1913. Pp. 1926. Price, bound, 56 marks; paper, 52 marks.

FIVE years have elapsed since the appearance of the fifth edition of Professor Oppenheim's classic treatise on nervous diseases. These have been years of phenomenal progress in neurology. During them our knowledge has been materially advanced as regards the following subjects, to select but a few at random: epidemic poliomyelitis, syphilis, salvarsan, the glands of internal secretion, the sympathetic nervous system, the physiology and pathology of the vestibular nerve, and the cerebellum. To take account of all the advances in neurology alone is laborious enough, and to adapt them for the purposes of an up-to-date text-book is indeed a formidable task. Professor Oppenheim, however, is nothing if not thorough. The literature of neurology in all languages has been laid under contribution; innumerable separate articles and communications have been perused and their contents noted, with the result that on any topic in neurology the physician will herein find, not merely a survey of the particular subject, but valuable references to literature concerning it. And let it not be supposed that these two volumes of 1926 pages are but a long series of abstracts strung together; nothing strikes the reader familiar with the subject material more than the critical acumen of the author in separating essentials from non-essentials; nothing is more noteworthy than his skill in emphasising what is known and proved and his judicial weighing of evidence where the data are uncertain or incompletely investigated.

Professor Oppenheim's original contributions to neurology have been many and valuable, but it may be questioned whether any reveals more ability than this great compilation. Apart from the descriptions of diseases, there are chapters on anatomy and physiology, and on general symptomatology, each one of which is a book in itself. By original illustrations and others culled from outside sources, by indexes and abundant bibliographical references, by the judicious use of large and small texts, the work has been made as complete and as practical as is possible. Oppenheim's sixth edition is a monument of industry and intellectual power.

Grundriss der Dermatologie.

Von J. DARIER, Médecin de l'Hôpital Saint Louis; autorisierte Übersetzung aus dem Französischen von Dr. Phil. et Med. KARL G. ZWICK, aus Cincinnati, Ohio, U.S.A., mit Bemerkungen und Erganzungen von Prof. Dr. J. JADASSOHN, Direktor der Dermatologischen Universitätsklinik in Bern. Mit 122 Textfiguren. Berlin: Julius Springer. 1913. Pp. 543. Price, paper, 22 marks; bound, 24.50 marks.

THE dermatology of Darier is widely known, and it has been appreciated by all who have read it, so that no surprise can be felt that it has been translated into German. The value of the translation is measurably enhanced by the facts that Professor Jadassohn has interspersed remarks here and there throughout the text, and has also made several important additions. These are always characterised by their practical value, and form a valuable accretion to the French text. They are printed in italics, so that the reader can readily see what Professor Jadassohn has added. It must have been no easy task to make these additions, for it is to be remembered that this work is somewhat elementary, and it was not intended to be anything approaching a complete treatise; he has exercised a wise restraint in keeping his remarks within bounds so as not to alter the character of the work. In some cases the addition is only a word or two, in others it consists of a paragraph. It may be mentioned that Dr. Darier has approved of these additions, and also that they are never really written from the standpoint of a critic. Dermatologists who are readers of German will be fortunate in possessing this valuable German translation.

Diet in Health and Disease.

By JULIUS FRIEDENWALD, M.D., and JOHN RUHRÄH, M.D. Fourth edition, thoroughly revised and enlarged. London and Philadelphia: W. B. Saunders Company. 1913. Pp. 875. Price 18*s.* net.

THE fourth edition of this (now) comprehensive work shows considerable extension in several directions consistent with the development of modern ideas on the subject. The previous edition was reviewed in our columns just four years ago, when we expressed a favourable opinion of it because it appeared to us that not only had the authors succeeded in giving a clear presentation of the practical side of the subject, but that they had taken care also to keep their readers in touch with the latest interpretations of those physiological researches that bear upon purely dietetic questions.

The present edition fully maintains this character. Recent physiological advances have necessitated the addition of a section on the mechanism of digestion and the rewriting of a chapter on metabolism and the prescribing of diet. The analytical tables have been brought as far as possible up to date, and special diets—such, for example, as those in fevers, notably typhoid fever—have received the attention demanded by the fresh light that has been thrown upon these questions. Again, the articles on diabetes and gout show a treatment of the subject fully in accordance with modern research and expressions of opinion. All through we find that a strong attempt has been made to lift the subjects out of old empiricisms. The book shows a thoroughness of treatment and compilation which should render it a real help to practice and a valuable source of reference generally on the science of food.

MISCELLANEOUS VOLUMES.

"THEN, all of a sudden, I wondered if the man of the present day could leave all his luxury behind him and go back into the wilderness and live on what nature intended him to have." And Joseph Knowles, an American painter—being imbued with the spirit of John Hunter, who wrote to Jenner, "Why think? Why not try?"—selected a forest wilderness in the North-West Maine country, known as the Dead River Region, where on August 4th, 1913, accompanied by a number of friends as far as the foot of the Spencer Trail, which rises straight up the side of the Bear Mountain, he smoked his last cigarette, undressed to nakedness in the drizzling rain, waved farewell to all human companionship for two months, and struck out alone along the trail without clothing, food, shelter, weapons, implements, or even a match or a flint and steel. On October 4th he emerged from the Canadian forest on the shores of Lake Megantic, having lived the life of a primitive man for two months in the wilderness of Northern Maine. He wore the skin of a black bear, his legs encased in crudely tanned deerskin chaps, with the hair inside, his feet in moccasins of buckskin, and carried on his back a pack made from woven lining bark of the cedar, holding various implements from the forest. He had a rude bow and arrows and a crude knife made from the horn of a deer; and thus he re-entered civilisation. The story of what passed between, of his first days in the wilderness, his first adventure, the struggle between the mental and the physical man, and much of interest concerning his neighbours of the wilderness and his animal studies, trapping and woodcraft, and the excellence of the training of the boy scouts is to be read in *Alone in the Wilderness*, by JOSEPH KNOWLES (London: Longmans, Green, and Co. 1914. Pp. 296. Price 5*s.* net.). Not the least interesting feature of the book is the reproduction of sketches made in the woods on birch bark with burnt sticks from his fires.——Those venturesome people who enjoy risking their necks mounting climbing—and the mountain seems no longer to inspire the awe it once did—will find much to interest them in *How to Become an Alpinist* (London: T. Werner Laurie. Pp. 218. Price 6*s.* net). In the first place it is written by one who knows what he is talking about, Mr. FREDERICK BURLINGHAM, for has he not kinematographed the Matterhorn? Then it is pleasantly and racily worded with a fund of humour which reaches its highest point in the final chapter, "How to get Killed on the Alps." The humour here, by the way, is put to a distinctly useful purpose, for it is likely that the warnings thus conveyed will stick more in the amateur's mind than if they had been given with solemn gravity. Instruction is given as to choosing an alpine centre, equipment and training and excursions for beginners. Some famous women alpinists receive a chapter. The training of guides is described and the causes of accidents are discussed. Finally, various alpine localities are described, and we would call vigorous attention to the St. Bernard Hospice, particularly to note that 20,000 tourists have annually visited the hospice for years past, when "no charge whatever is made for either food or lodging, and the only request is that the key be left on the chamber door on parting." Mr. Burlingham properly pillories the meanness of those who abuse this magnificent hospitality by slinking off without putting even enough to pay for their food in the chapel offering box, so that the total contributions of this horde of sightseers have scarcely sufficed to feed one-twentieth of their number.——In the second edition of *Mentone as a Health and Pleasure Resort*, Dr. D. W. SAMWAYS has made large alterations in the text, necessitated by the great progress that has taken place in the town since the first edition appeared in 1901. The little book, which bears the imprint of W. T. Southwood and Co., printers, Exeter, but has no publisher's name, contains much interesting historical and antiquarian matter, as well as a description of the modern town and its climate—viewed in the light of experience, of geographical considerations, of the local vegetation, and of its meteorological features and statistics. Its medical characteristics, pursuits and pastimes, and drives are described, as well as methods of travel to and from the place. We must not omit to mention the clever sonnet "To My Mosquito," by "Adrian Ross."

That the importance of proper training of and provision for the feeble-minded has greatly taken hold upon the public conscience is evidenced by the Mental Deficiency Act. Methods of training suitable for this class of people will doubtless be called for as a consequence. For those directly interested in the matter a little book for teachers, entitled *Industries for the Feeble-minded and Imbecile* (London: Adlard and Son. 1913. Pp. 66. Price 2*s.* net.), by Mr. A. BICKMORE, who for the past ten years has been craftsmaster and clerk of the works at Darenth Industrial Colony for Feeble-minded and Imbecile Patients of all ages, will doubtless be found useful. Among the trades that are taught at Darenth are carpentering, bookbinding, envelope and box making, brush and basket making, shoemaking and tailoring and wool rug making, printing, house painting, building, and upholstering, so that it will be seen that there is a wide range suitable for various classes of persons. The book is illustrated with half-tones representing the classes at work in the various industries.——*Experience Teaches* (London: Simpkin, Marshall, Hamilton, Kent, and Co., Limited. 1914. Pp. 194. Price, cloth 2*s.*; leather 4*s.*), by IVON TRINDA, is a volume of discursive remarks containing advice, partly to youngsters and partly to their parents and guardians, on school and what to learn, business, married life, recreation, and things in general, with some irrelevant anecdotes. The author urges teaching the boy to work with his hands, thanks the great Elizabethans for the blessing of tobacco, condemns whole-heartedly the prevalent irreverence "displayed alike to God and king, to parents, to masters and superiors, to manners, customs, habits, even to our ancient buildings"; has much that is sensible to say on fresh air and ventilation, the curse of drink, fads, the social vice and its consequences, and not a little that is otherwise on vivisection. We must confess that the mental attitude of a man—obviously a medical man—who catalogues as admitted achievements of animal experimentation the discovery of the circulation, the antiseptic treatment of wounds, the rendering possible of brain surgery, chloroform anæsthesia (partly), the clinical thermometer, much of physiology, and the action and dosage of many valuable drugs, and yet asserts that "much of the vivisection conducted nowadays will never have very much bearing on 'research into causation and treatment of disease,'" is to us incomprehensible.——Another little volume of semi-medical

essays, four in number, with an introduction, is *The Road to a Healthy Old Age* (London: H. K. Lewis. 1914. Pp. 104. Price 2*s.* 6*d.* net), by THOMAS BODLEY SCOTT. The last essay is a brief outline of the preparation and action of vaccines; the other three are more discursive, discussing fatigue and cheese and wine and galvanism and various aspects of the metabolic class of diseases which are mainly the results of deficiencies in personal hygiene.

JOURNALS AND MAGAZINES.

Annales de Médecine.—Our French *confrères* have grasped one of the inconveniences of the modern tendency to specialisation—that is, the increasing segregation of important original communications in special journals, whereby the difficulty of keeping pace with at least the broad outline of evolution in medicine is greatly augmented. The proportion of these special medical journals to general ones is perhaps more excessive in France than elsewhere. To help in remedying this position a new monthly journal for readers in the French tongue has recently been published under the auspices of Professeur Agrégé Léon Bernard, Dr. Fernand Bezançon, Dr. Georges Guillain, Dr. Marcel Labbé, Dr. Edouard Rist, and Dr. Gustave Roussy. It is called the *Annales de Médecine*, and the first issue, dated January, 1914, lies before us. It will embrace all fields of medicine, both clinical and experimental, and while it particularly aims to represent the progress of French medicine, its pages will not be closed to foreign writers. Besides original communications it will contain the now customary review of current progress, not merely confining itself to presenting an abstract of the work published elsewhere, but rather critically appreciating, at the hands of a competent reviewer, the value of the communication. The present number contains original communications by Professor A. Chauffard on the pathogeny of congenital hæmolytic icterus; Professor Pierre Marie and Dr. J. Lhermitte on the lesions of chronic progressive chorea; Dr. Paul Ravaut on the detection of the preclinical manifestations of nerve syphilis; and M. Rubens Daval on the histologic method of defence of the organism against cancer. The critical review concerns itself with a consideration by Dr. Fernand Bezançon and Dr. S. I. de Jong of recent communications bearing on infectious pleuro-pulmonary congestions. The journal, which is published by Masson et Cie, Paris, the subscription to countries within the Postal Union being 23 francs, is of convenient size, well printed, and is illustrated with admirable coloured plates and half tones. It promises to form a welcome addition to serious medical periodical literature.

Jahreskurse für ärztliche Fortbildung. Munich: Lehmann. Price 18 marks.—In the January number of this useful summary of the modern point of view in German medical literature Professor Schwarz writes on the Nature of Eosinophilia. He points out that under this heading we must include eosinophilia of the blood and also of the tissues. The condition is a specific reaction of the blood-forming elements in the sense that the eosinophile cells may rise or fall independently of the other leucocytes. It is probably the reaction to a special chemical stimulus. The various clinical conditions giving rise to eosinophilia are then passed in review, beginning with bronchial asthma, in which there is eosinophilia both of the blood and of the bronchial connective tissues, due probably to anaphylaxis. Other causes are worm-infections, skin diseases, and after acute infections; the relation to the secretions of the ductless glands is also reviewed. Professor Lubarsch follows with a discourse on what modern German literature calls *Nachkrankheiten*, which we might translate as "Afterwards-diseases," including tabes or general paralysis following upon syphilis, or gall-stones after typhoid fever. He then writes of some of the problems of cancer, such as precarcinomatous conditions and metastases, pointing out how in the skin cancer supervenes upon a scar, in the stomach upon an ulcer, in the liver upon cirrhosis, in the gall-bladder upon gall-stones. The rôle played by parasites is briefly discussed—for instance, certain nematodes of the rat's stomach produce an epithelial proliferation like cancer. The tissues of the body have a variable resistance to secondary infection, but the writer does not seem to know Sampson Handley's important researches on cancer dissemination. The article concludes with a few remarks on regeneration and transplantation of tissues.

Dental Record.—The March issue contains a paper by Dr. A. A. Mumford on the Oro-nasal Cavities during Adolescence, in which the author gives the results of his investigations into the oro-nasal cavities and acuity of sense organs in 1000 boys at the Manchester Grammar School. Mr. Spiller, in a note on the Movement of the Premolars, states that the maxillary teeth tend to rotate, the internal cusp in the case of the first premolar moving forwards, and in the case of the second premolar backwards. In the mandible the premolars tend to tilt backwards. Some amount of rotation is, however, often present, and is usually in the opposite direction from that seen in the maxillary teeth. A paper on A Public Dental Service is communicated by Mr. T. Mansell, and there is a short note on the Nerves of the Hard Substance of the Teeth by Mr. G. W. Watson.

New Inventions.

AN INTRA-UTERINE DOUCHE.

THE accompanying diagram represents a douche which I have found very satisfactory in maternity work. The large size of the channels permits of a copious flow of lotion and an easy unobstructed return. I have frequently given a couple of gallons of lotion in a few minutes. If the return

should be *partially* blocked by a large clot (I have never found it completely blocked) the inner portion of the instrument can be easily withdrawn without removing the douche as a whole from the uterus. The blunt end is an ample safeguard against perforating the wall of the uterus.

The instrument is manufactured for me by Messrs. Allen and Hanburys, 48, Wigmore-street, W.

Derby. R. DOUGLAS LAURIE, M.B., Ch.B. Edin.

THE GENERAL HOSPITAL, BIRMINGHAM.—The annual meeting of the governors was held on March 18th, under the presidency of Lord Hampton. The board of management reports that the number of in-patients under treatment last year was 5908, an increase of 411, the daily average of patients being 319·5, an increase of 5·25 daily. Of the in-patients 1079 were children under 12 years of age, of whom 272 were under 2 years. During the past year there have generally been over 180 cases on the list waiting admission. The number of out-patients was 58,815, a decrease of 8502. 4317 operations were performed, as compared with 3899 in 1912. The total income during 1913 was £31,990 2*s.* 9*d.* The amount from subscriptions was £7210 2*s.* 9*d.*, or £224 less than in 1912. Ordinary donations were £404 3*s.* 3*d.* £12,995 were placed to the credit of the current account as the moiety of legacies received during the year. The total expenditure was £30,482 10*s.* 3*d.* The deficit at the end of 1912, £7745 9*s.* 4*d.*, has been discharged, and there remains a balance in hand of £132 8*s.* 7*d.* Attention was called to the urgent need of increased accommodation. Before the Insurance Act came in a waiting list of 90 patients was regarded as large; now it was usual to have 180 to 200. It has been decided to open a ward which has been kept fallow for use in case of a serious disaster. The board reports with regret that no single subscription has been given to the hospital by the Insurance Committees or by Approved Societies under Clause 21, and only ten contributions have been received from societies towards the maintenance of in-patients who had no dependents. The total sum received has been £13 7*s.* 11*d.* towards the cost of maintenance of about £77 for the patients in question. The work of the X ray department has increased greatly; 3850 radiographs were taken in the year and many more patients were "screened," and 285 were treated with 2808 applications by X rays and radium.

THE LANCET.

LONDON: SATURDAY, MARCH 28, 1914.

The Fabian Society and the National Insurance Act.

THE interim report of the committee of the Research Department of the Fabian Society which has been inquiring into the working of the National Insurance Act appeared in the *New Statesman* of March 14th, and deserves close attention. The report in the first place takes a grave view of the financial situation caused by the excess of claims for sickness benefit made by women over and above the funds provided by the Act to meet them. Upon the subject of medical benefit the report has much to say which, if it implies dissatisfaction with conditions for which the Insurance Act and not the medical profession is responsible, suggests the direction in which steps will have to be taken in order to ameliorate those conditions. It is complained that in spite of a very large expenditure upon medical and sick benefit, indicating an excess of sickness, "on the whole it is only for the minor ailments of the insured person that medical treatment is being provided under the Act," while, on the other hand, "for the labourer who is seriously ruptured or who sustains a compound fracture of the arm or leg, for the woman suffering from one of the obscurer forms of anæmia, for the person needing treatment for some affection of the eyes or nose, or throat or ears, for the victim of appendicitis, to all of whom the Act guarantees 'adequate medical attendance and treatment'—the Commissioners first tell the Insurance Committees that the panel doctor (and only the one to whom the insured person is assigned) is all that may be provided; and, at the same time, they inform the panel doctor that, even if he is competent to do so, he is not required seriously to treat these cases at all." All this is true in a sense. The Insurance Act provides a very large annual sum for medical treatment for insured persons, but this aggregate sum subdivided into payments to be made to individual practitioners in respect of individual patients is no more than will suffice for that purpose. While it has been intended to secure the services of the general practitioner for all members of the insured classes, there is no adequate method to obtain for them at the moment, and in the place in which they require it, the aid of the specialist and of the specially organised institution in which that aid can effectively be rendered. These latter are benefits which until quite recent times have been left to the voluntary hospitals to supply, and the demand made by the report of the Fabian Society is a strong testimony to the great work which the voluntary hospitals initiated and in which Poor-law infirmaries in some centres of population have in comparatively recent times been associated.

The work of the voluntary hospitals is well known to our readers. These institutions have been supported financially by voluntary contributions mainly derived from benevolent members of the wealthier classes, and in part from the classes benefited. Their good work has also depended upon, and has been rendered possible by, the charity of the medical profession, whose leading members have devoted their time and their skill to the service of the poorest of their fellow citizens. The effect of the Insurance Act has been to increase the demand for the class of treatment which the hospital alone can supply, by leading to the more prompt detection of the need for such treatment; and no doubt some congestion has occurred in consequence. This was not unexpected, and that it should have ensued in the first year of operation is in itself evidence of the usefulness of the Act. Moreover, it is possible to be dissatisfied with the efficiency of the medical service provided by the Insurance Act without regarding it as a failure because it does not adequately treat all the more serious contingencies of developed and possibly neglected disease. The Act was called into being, if we rightly interpret the intention of the legislature, in order to bring serious conditions under appropriate treatment, and also in order to prevent by "adequate medical attendance and treatment" what are called minor ailments from becoming of serious importance. If the excess of sickness, which is one of the features of the present situation, means that medical aid is being sought early, gratifying results will ensue in the future, and the demand for institutional treatment of serious illness may then be less than at present it appears to be. It is early to form an accurate judgment as to this, but the essential point is not whether the scope of the work is too restricted, but whether within its sphere of operation it is being efficiently performed.

With regard to the organisation and administration of sanatorium benefit, particularly in London, the report is by no means eulogistic. It regards this vitally important benefit as the most backward and least adequately organised of those which the Act provides, and this after two years of deliberation and work. With regard to London it states: "Institutional treatment is available for consumptives only provided that they are both curable and insured. There is no treatment for incurable cases, even if insured; none for uninsured, even if curable. ..... There is no system of after-care, no provision of nursing, no institutional treatment for chronic cases—the reason being the narrow money limit imposed by the Act. Thus the drain on the Approved Societies for tuberculous cases has been hardly diminished."

In this respect there is probably a good deal of truth in the strictures made by the report, but the allocation of the blame is difficult. An enormous amount of additional labour has been cast by the Insurance Act upon local bodies, and upon those persons who are prepared strictly in the public interest to devote themselves to work upon such bodies. Financial considerations press heavily when public work on a large scale has to be undertaken, and in the administration of the Insurance Acts inadequate medical representation has, no doubt, had an effect more likely to be felt with regard to the treatment of tuberculosis than in anything else. The report of the Research Department of the Fabian Society on this matter is likely to produce useful discussion upon the topics treated in it, and if it is to some extent pessimistic in its conclusions, it is the temperate and considered judgment of persons competent to criticise, and is commendably free from the more marked prejudice and partisanship which characterise so much of the praise and blame which the Insurance Act has provoked. It is to the credit of the committee that they have avoided nebulous criticisms of the scheme as a whole, and have limited their task to the scrutiny of ways in which improvements can be effected in the working of the Act as it now exists.

Eyes for the Blind.

THE KING accompanied by the QUEEN opened the new premises of the National Institute for the Blind in Great Portland-street, London, on Thursday of last week. A considerable crowd of blind people assembled in the streets without, while within the entrance hall of the institute was a blind guard of honour, and the welcoming address was read from Braille text without a moment's hesitation by Dr. A. W. G. RANGER, the blind chairman of the institute. The publicity given by the gracious action of the KING and QUEEN to the needs of what was formerly the British and Foreign Blind Association will have an outcome, we hope, in the shape of generous subscriptions from the public; our readers can bring before their patients and friends no worthier object of endowment than the National Institute for the Blind.

The institute was founded in 1868 by the late Dr. T. R. ARMITAGE, who was himself blind, and since that time it has printed and distributed a large number of books of all sorts in embossed or Braille type. These publications form veritable eyes for the blind, now that they are becoming numerous and that even a certain number of magazines are reproduced in this way. Few blind people are so fortunately placed that at all times they can obtain the help of the spoken word, but when this fails them their want of eyes can be made good to some extent by the use of Braille literature. But unfortunately the supply of books published in Braille type is at present very limited. The publications, by reason of their great bulk and the tedious and complicated processes of manufacture, can only be produced at a vast cost. "Pickwick" requires 14 volumes and costs £2 5s.; "David Copperfield" is in 10 volumes; "Uncle Tom's Cabin" in 8; "Kenilworth" in 7; "Sherlock Holmes" in 6; "Jane Eyre" in 5; "Midshipman Easy" in 4; and the cheapest of these famous works is 12s. Give the blind people books which they can be easily taught to read and they will do much to equip themselves for the battle of life, and enjoy themselves much more as their fellow men do. To the address of welcome the KING made a very sympathetic and indeed eloquent reply. He rejoiced with the managing committee of the institute that their work, which has brought solace and hope into many lives, should have met with such a response that the enlargement of its scope must follow, and while wishing them all success in their efforts to benefit a large number of their afflicted brethren he added the just remark: "It is a commonplace that men do not realise the value of that which they have never lost, but I am confident that your appeal for funds to extend and develop your undertaking will stir the imagination of many who unreflectingly enjoy the blessing of sight."

Following on the KING'S visit there has come the Mansion House Fund on behalf of the National Institute for the Blind, one of the main objects of which is the cheapening and amplifying of literature of every description for blind readers. The LORD MAYOR of London in the appeal states that there is an immediate need for £30,000 to complete and equip the buildings inaugurated by the KING and QUEEN, while it is hoped that a further sum of at least £100,000 will be secured to form an adequate maintenance fund which will go towards reducing the excessive cost of the bulky Braille volumes which form the library of the blind. The number of books which have been done into Braille is not yet large, and the choice of books for this treatment seems on perusal of the catalogue to be extraordinary, but it is a matter of fact that books of any sort are a blessing beyond all calculation to blind people. There is nothing whatever we can do for blind people that compares for one moment with the boon of placing within their hands that great medium for the interchange of thought and idea, the printed book. The catalogue of Braille books to be obtained from the National Institute for the Blind contains, in addition to primers for children, historical readers, elementary grammars and dictionaries, and certain recognised works on mathematics and science, a selection of fiction, poetry, drama, and a good number of religious and devotional books. Money is urgently required to add to the number of books printed in Braille type, and we add our voice to Mr. C. A. PEARSON'S who pleads this cause in THE LANCET this week. We beg our readers to use all their influence with the public in behalf of the blind.

The Election to the Council of the Royal College of Surgeons of England.

FROM the names of candidates for election to the Council of the Royal College of Surgeons of England next June, which we have been able so far to announce, it will be seen that the contest will be an interesting one, nor is it necessary to conclude that the list is yet full. The candidates so far in the field represent the medical school of the University of Manchester and the metropolitan medical schools of the Westminster Hospital, St. Bartholomew's Hospital, King's College Hospital, University College Hospital, Charing Cross Hospital, St. Thomas's Hospital, and St. George's Hospital. Every one of the candidates for one reason or another can expect the suffrage of a certain number of Fellows. Mr. THORBURN has in his favour, in addition to other unmistakable claims, the fact that the retirement of Mr. RICHARDSON CROSS leaves a seat vacant on the Council for a provincial member. There is no recognised percentage of these members, but the opinion that the provinces should be well represented is general. Mr. CROSS'S vacancy, however, is strongly challenged by Mr. J. B. LAWFORD, ophthalmic surgeon to St. Thomas's Hospital, standing as an ophthalmologist for the seat of a retiring ophthalmologist. Mr. MCADAM ECCLES will have to reckon with the feeling that St. Bartholomew's Hospital is already thoroughly well represented on the Council. Mr. W. G. SPENCER, Mr. H. S. PENDLEBURY, Mr. F. F. BURGHARD, Mr. RAYMOND JOHNSON, and Mr. STANLEY BOYD are all sure of receiving the support of many Fellows who know the high character of their professional and educational work. The Westminster Hospital has been without a representative on the Council for some time, and the regretted death of Mr. CLINTON DENT has left St. George's Hospital without a voice. Only one member of the staff of King's College Hospital is now on the Council, and there is no representative of Charing Cross Hospital at all, but there are two representatives from University College Hospital. Mr. P. MACLEOD YEARSLEY is well known as the chairman of the National Bureau for the Promotion of the Welfare of the Deaf.

We may say at once that we do not regard it as particularly important that all the metropolitan medical schools should be represented on the Council of the College, for we do not picture the Council as occupied in maintaining the claims of one school against another. There was a time when a spirit of this kind may have prevailed, but time has removed what used to form a serious abuse. We believe that the Fellows, also, are far more willing to give their votes with a sense of public spirit than used to prevail even in comparatively modern times. It is generally desired by the Fellows to choose the best man among the candidates. Indeed, we have reason to believe that there are two classes of candidate for the Council of the College who at the present juncture would be supported by many Fellows, though a few years ago their chances of election to the Council would have been very slender. No candidate from these classes has as yet decided to put his name forward, but a Fellow of the College engaged in general practice or a Fellow of the College holding some big public health appointment would either of them prove a strong candidate. The deliberations of the Council might be much strengthened by the presence at their board of men who have particular opportunities for understanding the relations of the medical profession to the public in the matters of ordinary social or municipal life. There is no suggestion that the presence of a medical officer of health, of a medical officer for educational purposes, or of a Fellow in general practice upon the Council of the College, would be considered as any answer to the demand, which we have so often supported in these columns, for some measure of reform which would give the Members of the College a share in the government of their body. It would not be regarded as such an answer in any general way, but it would give the Members a sense that they were obtaining a closer measure of representation than before. Anyhow, the most ardent advocates for the alteration of the constitution of the College could see nothing but good as likely to arise from the introduction upon the Council of a Fellow engaged in general practice, or of one holding an appointment which brings him daily into personal touch with general practitioners. We believe also that the presence of such a Fellow on the Council would be welcomed by those in authority at the College, who would see the profit to be derived from the intimate information thus placed at their disposal. There are not many Fellows holding public health appointments, so that the appearance of a candidate for the Council from among them is not very probable; but the Fellows in general practice are now a large body, and we should be very pleased to see one offer himself for a seat on the governing body of his corporation. There still remains some time during which the claims of such a Fellow could be considered by the constituency, if the name was set down at once.

We had nearly said that time remained for the organisation of such a candidature, but organisation implies canvassing, and so far from suggesting that there should be any regular canvassing for seats upon the Council of the Royal College of Surgeons of England we feel strongly that any procedure of the kind is quite wrong. The governing body of the College ought to be selected very carefully, votes being given with due regard to the work and standing of the candidates, and personal claims being set aside as far as possible. That a man should vote for the candidate whom he believes in personally is not only natural but safe, for the candidate who obtains a successful measure of support of this kind must be a very strong one.

Votes given in response to knowledge of the good work done by a candidate are also rightly given, but such good work should be susceptible of public test and not merely vouched for by the candidate's friends. Lastly, votes given "to oblige" are vicious in elections to such bodies as the Council of the Royal College of Surgeons of England.

Annotations.

"Ne quid nimis."

INFANT MORTALITY AND THE WELFARE OF INFANCY.

THE National Association for the Prevention of Infant Mortality and for the Welfare of Infancy is memorialising the General Medical Council with the hope that the authorities of medical education may raise the standard of their requirements as to the knowledge shown by students in the subject of infant hygiene. We view with considerable apprehension any suggestion to increase the scope of the examinations which the medical student is required to pass, inasmuch as it is allowed on all hands that the present curriculum is either overloaded or ill-arranged, as the time taken by the average candidate to obtain a degree or diploma is already over six years; but infant hygiene is a subject of the first importance to all practitioners, as well as one of overwhelming practical interest to the State, and from this point of view Sir Thomas Barlow, the chairman of the executive committee of the association, and his enthusiastic colleagues are justified in the action which they are taking. Moreover, it is demanded by the following resolution which was adopted at the English-speaking Conference on Infant Mortality held in London on August 5th, 1913:—

That this conference requests the executive committee of the National Association for the Prevention of Infant Mortality and for the Welfare of Infancy to communicate with the General Medical Council and the degree and licence-conferring bodies, with a view to infant hygiene being given a more important place in the medical curriculum.

The executive committee of the association, in carrying out the above instruction, prepared a report upon the whole subject which shows that the various teaching centres are not unwilling to provide the requisite instruction. They have made inquiries of all the medical schools and children's hospitals where teaching is given throughout the United Kingdom, 51 in number, as to present or proposed facilities for the teaching of infant hygiene, and have received replies from 27 of these institutions. "In four cases," says the report, "viz., Manchester, Glasgow, Dublin, and Belfast—a course and certificate of special attendance and instruction are required. In six cases—viz., Guy's, Middlesex, St. Bartholomew's, Westminster, King's, and University Hospitals, London—there is a special department or course of instruction in this subject. At the Royal Free Hospital for Women, London, a weekly infant clinic is to be opened this year. At two special hospitals—Evelina and Great Ormond-street, London—as at the West London Hospital and other hospitals without medical schools, and in the comprehensive course held annually in London under the National Association for the Prevention of Infant Mortality, special instruction is given to graduates." In the remaining medical schools returning replies, instruction is considered to be given in the general curriculum of the hospital, sometimes by the physicians, sometimes by the surgeons, sometimes by the obstetricians and gynæcologists, and sometimes by lecturers on general hygiene. It is this assumption that instruction in infant hygiene is already being given that makes us feel particularly sympathetic towards a movement the wisdom of which must otherwise have been challenged on the simple ground that to ask a student, already overburdened, to carry another weight was injudicious. But it is a question whether the student is being asked so much to carry another weight as to have those which he is now carrying arranged in a manner more convenient to the porter. The recommendations of the executive committee are as follows:—

That degree and licence-conferring bodies should require from each candidate for the final examination in medicine a certificate of having attended a course of clinical instruction on infant hygiene, to include lectures or demonstrations on the management of infants, and the prophylaxis and treatment of infantile diseases.

Such a course should include instruction in the part played by the State in infant hygiene, with special reference to the duties and functions of the medical practitioner, the midwife, the hospital and local sanitary authorities, and the health visitors.

The certificate required from candidates in midwifery for the final examination should include evidence that they have received instruction in antenatal pathology and hygiene, and in the management of infants during labour, the puerperium, and the period of lactation.

We agree with the executive committee in thinking that the machinery for such a course of instruction already exists in most of the leading centres of medical education, and that the rearrangements which could be effected by a little organisation would lead to most medical students receiving the instruction outlined in the recommendations.

TONE IN RELATION TO SHOCK.

THE lecture delivered by Mr. Rendle Short,[1] in which he directs attention to the possibility of loss of muscular tone being concerned in the causation of shock, offers another instance of the increasing attention which is being directed to this matter of tonicity. There is little doubt that it constitutes a function of elemental and fundamental importance. Though the slight degree of resistance to full relaxation of muscular elements looks to be of trivial significance, the fact that prominent cerebral centres concern tonic activities, as represented for skeletal tissues by the cerebellum, and for visceral structures by the corpus striatum, indicates that wider functions are to be expected than this relatively simple mechanical action. Developmentally, tonus had a dominant representation in contractile elements. Before an integrating nervous mechanism enforced the value of concerted and graded movements, this power of automatic contraction was the simplest defensive mechanism possessed by the lowest organisms. Though this simple response has long since been superseded by skeletal organisation, its impress upon such organisation is increasingly recognised, as Sherrington's work shows. It is a quality, for example, which is capable of reinforcing skeletal activity to a remarkable degree, and this it does at no sacrifice to the delicacy of such activity. And just those influences, included by the psychologist under the term affective states—

[1] THE LANCET, March 14th, 1914, p. 731.

fear, anger, love—which are most elemental or preservative in character, are just those most capable of affecting tone. Developmentally, this is what one would expect, for they are intimately related to the safety of the individual, and tone had its origin in this relation. The brain centres, too, for controlling tone are of older origin than the later refinements. If skeletal structures appear to show little active evidence of tone, X ray observations upon the gastro-intestinal tract have emphasised the significance of tone as an entity and as a quality which is independent of peristalsis. And the later cardiac work has again shown the importance, not only of the quality of tone but also, similarly to the gastro-intestinal tract, its independence of other functions. In both these spheres tonicity is a quality to be considered as a definite, though at present ill understood, entity. In the nervous system the quality of tone naturally assumes a complexity which at present baffles definite assertion. The relation of the cortex to the cerebellum and central nuclei shows an intimate and coördinate arrangement which one would be led to expect from the study of the skeletal system alone. But the complex relation to the affective states is more difficult of solution, though the intimacy of relationship would be anticipated from developmental views. It is reasonable to suppose that the state of shock would find wide representation in changes of tone concerning visceral as well as skeletal and cerebral function, and investigation along such lines offers a promising field of inquiry.

COÖRDINATION OF THE TREATMENT OF MENTAL DEFECT IN LONDON.

THE London County Council has decided that the Mental Deficiency Act, 1913, shall be administered (if Parliament permits) by a committee which shall also be responsible for the control of the insane asylums, and application is being made to Parliament this session for power to deprive the Asylums Committee of its special powers and independence under the Lunacy Acts and to merge its duties in those of the new committee required to be set up under the Mental Deficiency Act. In the meantime the Committee for the Care of the Mentally Defective and the Asylums Committee will consist practically of the same persons, but the two branches of work will be kept distinct. The General Purposes Committee, reporting to the Council recently on the organisation of the service for the care of all kinds of mentally defective persons, intimated that when the temporary arrangements indicated above came to an end the Council would probably be invited to place the general supervision of the arrangements for the treatment of persons under the Mentally Defective and Lunacy Acts in the hands of one officer. This would only be the natural corollary of the Council's decision to combine the two services with a view to coördinating the treatment of all persons suffering from mental defect. At present there is no one person occupying the position of a chief professional or executive officer in the asylums service. There is a clerk or administrative officer, and each asylum is superintended by its own professional or executive head. For the interim period, pending a decision by the new committee when it was in possession of full powers, the professional and executive work, so far as it had reference to the Mental Deficiency Act, should be controlled, in the view of the General Purposes Committee, by the medical officer of health for the county, the arrangements for the asylums work being continued as at present for the time being. No doubt a large proportion of the persons to be dealt with under the Mental Deficiency Act would be ascertained by notification from the schools, and the new Act appeared to the Committee to require a continuous medical action from the first stages during childhood to the stage of certification for institutional treatment or guardianship. The officer upon whom it would devolve in the great majority of cases to select children for notification to the Committee for the Care of the Mentally Defective is the medical officer of health in his capacity of school medical officer, so that his appointment as suggested would be in accordance with the intention of the Act. The Council approved the report, but decided, after discussion, to call the new body the Asylums and Mental Deficiency Committee.

THE PASSING OF THE DOCTRINE OF AERIAL INFECTION.

IN the *Journal of the American Medical Association* of Feb. 7th Dr. C. V. Chapin has published a very cogent article showing how erroneous is the time-honoured view that the air is the chief vehicle for the conveyance of infectious disease. In the 1883 edition of Parkes's "Hygiene," the standard book of the day, malaria and yellow fever were considered typically air-borne disease. Typhoid fever, cholera, dysentery, and diarrhœal diseases were said to be largely air-borne, and sewer air was alleged to be an important factor in their production. Typhus fever and plague were thought to be spread by a vitiated atmosphere. It was assumed that bacteria were freely given off from fæces, urine, and other discharges, and were exhaled in the breath. However, in the late "seventies" of the last century Nägeli and Buchner showed that bacteria are not given off from moist surfaces or liquids in a state of rest, and Tyndall demonstrated that expired air is sterile. The discovery of the tubercle bacillus by Koch led to the view that the usual mode of infection was transmission on particles of floating dust. The investigations of Cornet, who showed in 1885 the presence of tubercle bacilli in dust, confirmed this view. In 1897 Flügge showed that bacteria could be carried in the fine droplets of saliva thrown out from the mouth during loud talking or coughing. It had previously been found that bacteria-holding droplets could be thrown into the air by agitation of sewage. But unwarranted inferences were drawn. Because Cornet's guinea-pigs were infected by clouds of tuberculous dust and Flügge's guinea-pigs when held a short distance in front of a coughing consumptive, it did not follow that dust or droplets are under natural conditions the chief mode of infection. The question of dosage in causing disease is all-important, but has been much neglected in bacteriological work on aerial infection. One observer found bacteria only four times in 200 litre samples of air from the soil-pipes of Boston sewage, and then only when splashing of sewage occurred at the place and moment of examination. Later experiments were made to determine the extent to which general air infection in an apartment is caused by droplets. In 140 litres of air taken at various points from a room

immediately after from 10 to 50 minutes' loud speaking by a person whose mouth was infected with B. prodigiosus, the organism was found only seven times. In 74 litres examined for streptococcus salivarius none were found. More recently the air of New York schools was examined for the acid-forming streptococci which are the most abundant organisms in the human mouth. In 30,000 colonies isolated from 750 plates only 10 mouth streptococci were found. On the other hand, he found salivary bacteria in the dust of schoolrooms in enormous numbers. To turn to the clinical aspect of the question. A little after the middle of the last century, under the great authority of Murchison, it was believed that the chief cause of typhoid fever was effluvia from decomposing animal matter. When the Prince of Wales in 1871 contracted typhoid fever at Sandringham the escape of sewer gas into his apartment was considered by everyone a sufficient explanation. Now conveyance by infected water or food is universally held, and the "carrier" has supplied the missing link in previously inexplicable cases. Cholera, dysentery, and diarrhœa were considered to be largely spread by air polluted with the discharges of patients. The discovery and study of the causal microbes has shown that it is by water, food, contact, flies, and carriers that these diseases are spread. Pasteur showed the importance of particles floating in the air as a cause of putrefaction. In applying his discoveries Lister tried to prevent infection of wounds from the air by means of the carbolic spray until he found the unimportance of this source. Pyogenic bacteria can always be found in the air of operating theatres, but they rarely cause wound infection, probably because of their small number and the diminution of virulence by drying and exposure to light. A wider infection of the atmosphere has been claimed for small-pox than for any other disease, but Dr. A. Collie in a recent book on "Small-pox and its Diffusion" has shown that the alleged aerial conveyance around hospitals is probably due to personal contact. The belief that scarlet fever, diphtheria, measles, and whooping-cough are air-borne is being abandoned by many observers.

NEPHROPEXY FOR MOVABLE KIDNEY.

THE discussion at the Surgical Section of the Royal Society of Medicine on the surgical treatment of movable kidney[1] was of considerable practical importance, if only for eliciting the divergence of opinion as to the amount of success which is likely to follow such procedure. The condition itself is one in which the limits of health and disease are very indefinitely marked, as it is undoubted that in many apparently healthy persons a much greater range of mobility is possessed by the kidney than is usually recognised as normal, while the disturbances which are associated with some instances of such increased mobility are not easily explicable as direct consequences of the condition. Again, the range of movement is not by any means proportional to the severity of the symptoms. These are often, or indeed usually, of a neurasthenic nature, and may not be associated by the patient with the kidney or its neighbourhood until attention is called to the abnormality as a result of medical examination. On the other hand, there is another group of cases which present features more definitely referable to traction in the renal region, the pain and discomfort being relieved by rest in bed and reproduced by movement and assumption of the erect posture. It would seem, then, that on scientific grounds operation is indicated in the latter group and to be avoided as far as possible in the former, and experience seems to bear out this view. In neurasthenic cases the question of nephropexy may have to be faced as a last resource, if the patient has become imbued with the fixed idea that the movable kidney is the source of trouble and that fixation is the only means of relief, but in such persons a large percentage of failures must be expected. The actual mortality of the operation of nephropexy is very small, perhaps 1 per cent., and it presents no particular difficulties. It is probably well to aim at a high point of fixation, and attachment to the twelfth rib gives good results. There is, however, little doubt that the operation is now less in favour than it was some years back, and that the general direction of opinion is towards restricting the number of cases so treated and relying rather on general measures of hygene and on carefully adjusted abdominal support.

[1] Proceedings of the Royal Society of Medicine, 1914, vol. vii., No. 4, Surgical Section, p. 137. THE LANCET, Jan. 24th, 1914, p. 243.

TROPICAL SANITATION AND HYGIENE.

THE syllabus of the new course in tropical medicine and hygiene at the London School of Tropical Medicine has now reached us. Two courses, commencing on May 1st and Oct. 1st, and extending over a period of eight weeks each, will be given annually. There will be ten lectures and demonstrations on medical entomology by Colonel A. W. Alcock, I.M.S., these including the common tropical insects that carry disease. Three lectures and two demonstrations will be given on port hygiene by Dr. H. Williams, eight lectures and demonstrations on bacteriology by Professor R. Tanner Hewlett, and a practical laboratory course on bacteriology by Dr. B. H. Wedd. Professor W. J. Simpson will deal with hygiene in the tropics and public health subjects—town planning, building laws, insanitary areas and houses, nuisances and infectious diseases being included under this heading. Dr. C. M. Wenyon will give four lectures and demonstrations upon protozoology, and Dr. R. T. Leiper the same on helminthology. Elementary surveying and sanitary engineering will be under the charge of Mr. S. F. Corby, while finally, Dr. Arnold Chaplin will instruct the students on the care of the sick on board ship in the tropics. It is intended to make the course as practical as possible, and to illustrate the application of the methods taught in the investigation of disease by material obtained from the hospital adjoining the school. The course will thus be seen to be a very comprehensive one, and one of real value, as it will teach the young men of the present day the application of the careful research work carried out in the last 15 years by so many of the pioneers of tropical medicine. A great advance has taken place in recent years in the health of all the tropics, and especially in the more deadly parts such as the West Coast of Africa, and it behoves the present generation to keep this advance up and to do still better. Many of the villages and stations in the tropics at the present day are in the sanitary condition of English villages 50 to 100 years ago, and the death-rate is as high as would be expected.

The new course on sanitary science in the tropics generally should be of great value, and further particulars may be had from the secretary, Seamen's Hospital, Greenwich, London, S.E.

TUBERCULOSIS IN THE NECROPSIES OF CHILDREN.

THE Local Government Board has now issued the special reports on this subject[1] to which allusion was made in the annual report of the medical officer of the Board for 1912–13, which we recently reviewed.[2] The first, by Dr. A. Eastwood and Dr. F. Griffith, relates to 150 post-mortem examinations of children dying in various London hospitals (not specially devoted to the care of tuberculous patients), while the second, by Dr. A. S. Griffith, deals with somewhat similar observations at Cambridge on a consecutive series of 45 children. These reports illustrate the great extent to which tuberculosis is a cause of death in town children, and the frequency with which this disease may be present in children who die from other causes. Taking the first of these reports, it appears that of the 150 post-mortem cases in children between the ages of 2 and 10 death was due to tuberculosis in 61, and evidence of tuberculosis was found in 33 others. This series of 33 comprised 16 showing lesions of tuberculosis in which the bacilli were apparently dead, and 5 in which, though there were no tuberculous lesions in any part of the body, tubercle bacilli were obtained, by inoculation and culture, from the cervical, bronchial, or mesenteric glands. Taking the 94 cases in which evidence of tuberculosis was found, the anatomical appearances indicated that in 22 the glands draining the alimentary tract had been primarily invaded, in 52 the respiratory tract seemed to have been the seat of invasion, and in 20 the anatomical evidence as to the portal of entry was inconclusive. As all three investigators brought to this work special knowledge acquired in their researches for the Royal Commission on Human and Animal Tuberculosis, their investigations into the type of bacilli met with in these cases has exceptional value. In the 94 cases above referred to the bovine type predominated in those in which on anatomical grounds infection was considered to have taken place by the alimentary tract; on the other hand, bacilli of the bovine type were found in 1 only out of the 52 cases apparently due to respiratory infection. The bacteriological distinctions between bovine and human types were as a rule quite definite, though in one instance a strain was found which could not be classified as either "human" or "bovine" on the accepted standards. In the second report, which gives broadly similar results, Dr. A. S. Griffith lays stress upon the consideration that absence of bacilli of the bovine type from cases in which the primary lesions were thoracic probably signifies that when the lungs of children are affected by tuberculosis of "human" origin the infection has been acquired through the respiratory passages and not through entry by way of the alimentary tract. While there is evidence that tubercle bacilli, which reach the alimentary canal as a result of swallowing infected dust or other material, may pass through the mucous membrane of the alimentary tract without leaving trace of their passage, it is unlikely that an anatomically primary thoracic tuberculosis would be caused, for if this were common anatomically primary tuberculosis of the lungs should be frequently met with as a result of swallowing bovine bacilli. Many other matters of interest are dealt with in these reports, and it would be of obvious value if similar researches could be extended—for example, as to the differences in the relative prevalence of human and bovine infection in different localities.

[1] Reports on Public Health and Medical Subjects. No. 88. London: Wyman and Sons, Fetter-lane. Edinburgh: H.M. Stationery Office. Dublin: E. Ponsonby. Foreign: Fisher Unwin. Price 2s. 3d.

[2] THE LANCET, Jan. 31st, 1914, p. 339.

THE VALUE OF THE SPLEEN RATE IN MALARIOUS DISTRICTS.

IT is obviously of the first importance that sanitary administrators and other responsible officials in malarious regions should be able to appraise the amount and intensity of the infection in any district, and also that they should be able to watch and make definite record of the changes or fluctuations which may occur in the incidence of the disease after the adoption of antimalarial measures of one or another kind. Various methods have been put forward from time to time for gauging the extent to which malaria may exist in a locality, but most of them have been open to objection of some sort, either, for example, on the score of difficulty of application or because of the excessive amount of time or trouble required to carry them out. The test which is now most generally accepted, and which is at present largely used by experts for the purpose, is that known as the "spleen rate"—that is, the proportion of all children in the place showing evidence of any enlargement of the spleen. It is, however, admitted that diseases other than malaria may give rise to enlarged spleens, kala-azar for instance; but it is believed that with care it is possible in most localities to guard against mistakes from this source. The simple spleen rate, though fairly free from observational error, is not altogether exempt from it, and this has been found to arise more particularly in connexion with the difficulty of deciding whether a spleen which is "just palpable" under the ribs is, or is not, a pathological enlargement, especially where young children are concerned. When reporting upon his inquiry, made last year, into malaria in Cyprus, Sir Ronald Ross drew attention to this difficulty and expressed his intention, with the view of removing doubt, of making further study of the spleen in a number of children in some non-malarious country like England. With the assistance of two expert officers of the Indian Medical Service, Major S. R. Christophers and Major E. L. Perry, Sir Ronald Ross has now carried out his intention and has made detailed and careful examination of the spleens of nearly 500 children attending five large schools in the north of London. Many of the cases were examined by all three observers, and seldom by less than two of them, and the results have been published in the *Indian Journal of Medical Research* (Vol. I., No. 3). Various methods of palpation were tried and different devices as to posture were adopted in order to obtain the most favourable conditions in which to detect the spleen by palpation. In only 5 cases could the spleen be said to be palpable, and this gives a spleen rate of only 1 per cent.; in 5 other instances doubt arose as to whether the spleen could be felt or not. Including these doubtful cases, the spleen rate is only 2 per cent., whereas in some 20 or more colonies examined by Sir Ronald Ross in previous years the average rate

was 22·2 per cent. In no instance did the spleen in any of the London children extend below the costal margin or show any considerable degree of enlargement. Of the positive cases, all that could be said was that the spleens were "just palpable." These valuable observations confirm largely the opinion which Sir Ronald Ross has previously expressed to the effect that for practical purposes it is safe to regard all palpable spleens as being probably malarial; they also show that no great error due to palpation of the normal spleen has to be considered, and that a large proportion of "just palpable" spleens in any child community must be regarded as abnormal and therefore requiring some explanation. Another important point mentioned in the report is that an alteration in consistency as well as enlargement would seem to be an important character of the enlarged spleen due to malaria. It appears, therefore, as a result of these observations that the spleen-rate method for measuring the amount of malaria in a district may continue to be used with entire confidence except perhaps with the single exception of localities where kala-azar is known or suspected to be prevalent.

EPITHELIOMA OF THE TONGUE IN A WOMAN.

EPITHELIOMA of the tongue is extremely rare in the female sex. At a meeting of the Société Médicale des Hôpitaux of Paris on Feb. 27th M. L. Queyrat and M. R. Demanche showed a case of epithelioma of the tongue in a woman, aged 33 years, which presented several other points of interest. Her parents were living and in good health and did not know of a case of tumour in the family. The patient was of good constitution, had never smoked or taken alcohol, did not wear a denture, and gave no history and showed no trace of syphilis. She was married, had a girl aged 3½ years, and had never miscarried. The serum reaction, both by the method of Bauer and Wassermann, was negative. In July, 1913, the left border of the tongue was wounded by a carious tooth, which was extracted soon afterwards. At this point an excrescence of the size of a lentil formed and progressively enlarged. At the end of September she went to the Hôtel Dieu, where the growth was removed and found to be an epithelioma. Recurrence took place and she returned to the hospital and saw another surgeon, who evidently diagnosed syphilis, for he prescribed Gibert's syrup. An enlarged gland appeared at the anterior border of the left sterno-mastoid muscle, and she consulted M. Queyrat. When shown to the society there was on the posterior third of the left border of the tongue an oval ulcer 4 to 5 centimetres long and 1½ centimetres deep with hypertrophic borders, not bleeding, and a little tender. It caused dysphagia and pain which radiated towards the left ear. At the anterior border of the left sterno-mastoid muscle there was an enlarged gland. There was no leucoplakia. All doubt as to the diagnosis had been removed by a microscopic examination which showed that the growth was an epithelioma with typical epidermic globes. There was considerable proliferation of epithelial cells of the Malpighian type, arranged in concentric masses, often with complete keratinisation at the centre. In some places there was diffuse epithelial infiltration without lobulation. The reaction of the connective tissue was moderate; between the epithelial lobules were only thin lines of embryonic and polynuclear cells. A further operation was proposed. This case is remarkable not only in the sex of the patient but because, excepting the dental trauma, all the usual causes of epithelioma of the tongue were absent.

REVERSED ACTION OF THE HEART.

AN extraordinary case is reported in the current issue of *Heart* (Vol. V., p. 109), by Horatio Williams and Henry James, in which evidence showed that a reversal of the normal heart's action was present. The ventricles contracted before the auricles. It is the only clinical instance of this nature. The patient was a man aged 51, and his symptoms were typically those of the Stokes-Adams syndrome. The examination showed that the ventricles were beating regularly at 40 per minute. There was, however, no heart block present. The initiation of the heart's beat by the ventricle was probably due to depression of sinal rhythmicity below that of the ventricle's intrinsic rhythm. The auricle, therefore, following its customary function, responds to that focus of stimulation which is of highest rhythmicity, and which, in this case, was not the sinus but the stimulus from the ventricle conducted *up* the bundle of His. This case forms another illustration of the clinical fact that not all instances of the so-called Stokes-Adams syndrome are due to heart-block. The proof of the particular mechanism of the heart's action in this case could only have been given by means of electrocardiographic tracings, which shows the value of this method of examination.

RECOVERY FROM MALARIAL COMA.

THE supervention of coma during an attack of malarial fever is generally regarded as a very grave indication. The symptoms in such cases are probably due to blocking of the brain capillaries by large numbers of parasites and the liberation of a considerable amount of toxin which poisons the system and gives rise to irritation of the brain and other organs, including the kidneys, with the production of albuminuria. In such instances it is not unusual to find little or no evidence of the presence of malarial parasites in the peripheral blood, though they may exist in large numbers in the brain or abdominal viscera. Elsewhere in these columns we publish to-day an interesting account of a somewhat remarkable recovery from malarial coma which had lasted for 46 hours, the particulars of which are supplied by Captain A. G. Tresidder, I.M.S., under whose care the patient had been placed. The treatment employed consisted of the intramuscular, and afterwards the intravenous, injection of hydrochloride of quinine, combined with the injection of normal saline solution, at first intravenously, along with the quinine, and afterwards alone in considerable amount by the rectum. The work of Major A. C. MacGilchrist, I.M.S., on the solubility and absorbability of quinine salts had led to the conclusion that when given by the mouth the usual salts of quinine are absorbed only in very small amount by the stomach. In malarial coma the patient's condition is so urgent that it is necessary to administer large doses of the drug to produce any immediate effect, and therefore injection affords a far better prospect of success than when the remedy is given in the usual manner. Normal saline solution adds in some way to the absorbability of the remedy, and is always beneficial in any toxic condition. In all probability it was to this method of treatment that the patient in this particular

instance described by Captain Tresidder owed his recovery. We understand that the same mode of treatment has been used with success by Dr. W. James in the Ancon Hospital, Panama Canal Zone.

THE FUTURE OF DENTAL EDUCATION.

ELSEWHERE in our columns one of our Scottish Special Correspondents, dealing with the recent meeting of the West of Scotland Branch of the Incorporated Dental Society, states that in an address on "Dental Politics," in which the future extension of the insurance benefits to include dental attendance was dealt with, the suggestion was made that dentistry should be freed from the semi-medical course and from the control of the Medical Council. A more pernicious suggestion was never made. Dentistry is a specialised application of surgery, and the true course of evolution is to free it from the "semi-medical course" by subjecting it first to an entirely medical course, with special study subsequently, as in the case of any other specialised department of the art of medicine. Such an ideal may perhaps not yet be within reach of attainment, but the reverse course would be a fatal retrogression.

THE ACTION OF THE DIGITALIS BODIES.

To the large mass of literature on the action of digitalis some useful additions have recently been made by two American investigators—Dr. Robert A. Hatcher and Dr. Cory Eggleston—whose work on this subject was recently noticed in THE LANCET.[1] In a series of collected papers published in the current issue of the *Cornell University Medical Bulletin* these authors record the results of investigations conducted by them in the pharmacological laboratory of the University. The papers deal with digitalis research from several standpoints, those on the emetic action of digitalis bodies being especially useful. The authors show that all the digitalis bodies which they have tested induce emesis in cats more promptly and in smaller doses after intravenous administration than when they are given by stomach, from which they conclude, as our readers will recollect, that the emetic action of these drugs is exerted upon the vomiting centre in the medulla. True digitalin is relatively the most actively emetic of the digitalis principles, digitoxin being much less actively emetic, while digitalis is intermediate in this respect, agreeing with the fact that it contains both those principles. Further, the authors' results lend no support to the claims made that digalen, digipuratum, digitalysatum, or the fat-free tincture of digitalis is in any way less actively nauseant or emetic in proportion to its cardiac activity than any of the better known and less expensive galenical preparations of digitalis and strophanthus. Since there is at present no means of securing the cardiac actions of the digitalis bodies without subjecting the vomiting centre to the influence of these agents at the same time, the authors conclude that there is no advantage in substituting one mode of administration or one member of the group for another, and they point out that the employment of opium to prevent the gastro-intestinal symptoms of the digitalis bodies in ordinary cases masks the appearance of toxic symptoms which should serve as a signal for the reduction of the dose. Another phase of the digitalis question with which Dr. Eggleston and Dr. Hatcher deal is that of its so-called cumulative effect; the production of the phenomenon, commonly called "cumulation"—a term to which the authors object—depends on the relationship existing among a number of factors, including absorption, elimination, and persistence of action, all of which are in need of investigation. The cumulative effect of digitalis and its emetic action are two unfortunate properties of a most valuable therapeutic agent, and it is satisfactory to know that research workers are attacking the problems which these properties raise.

[1] THE LANCET, Oct. 4th, 1913, p. 1013.

ROYAL COMMISSION ON SEWAGE DISPOSAL.

THE final report of this Commission, according to a statement accompanying the Civil Service Estimates for the ensuing financial year, will be presented shortly. The Commission was appointed so long ago as May, 1898, and it has already presented eight reports. The first (preliminary) was in July, 1901. The second (July, 1902) dealt with certain chemical and bacteriological investigations which had been made under the direction of the Commission; the third (March, 1903) had to do with trade effluents and the setting up of rivers boards and a central authority for the purpose of settling disputes between manufacturers and local authorities, and for the better protection of rivers and other waters; the fourth (December, 1903) dealt with the dissemination of disease by means of contaminated shellfish, and other evils caused by the discharge of unpurified sewage and trade effluents into tidal waters, and contained reports by the Commission's own officers on bacteriological examinations of shellfish and sea water, on the land treatment of sewage, on methods of chemical analysis, &c.; the fifth (1908) reviewed the main question of what methods of sewage disposal may properly be adopted by local authorities; the sixth (February, 1909) treated of the disposal of distillery effluents; the seventh (February, 1911) dealt with nuisances due to excessive growths of green sea-weeds in sewage polluted estuaries, with special reference to Belfast Lough, and contained a separate report by officers of the Commission upon the preliminary treatment of sewage in slate beds; and the eighth (November, 1912) had reference to the standards to be applied to sewage and sewage effluents discharging into rivers and streams, and the tests which should be used in determining those standards. The Commissioners have since investigated the question of the disposal of various polluting trade liquids, and are now engaged in preparing their final report.

CHALAROSIS: A NEW HUMAN MYCOSIS.

IN the *Presse Médicale* for Feb. 21st M. Roger, M. Sartory, and M. Ménard give an account of two cases of infection of the human subject with a fungus which they refer to the genus Chalara. The first patient was a woman of 25, who had for several years been subject to attacks of tonsillitis, usually ending in suppuration. An attack beginning in October, 1911, proved more serious than those which had preceded it, and the tonsil was ultimately removed. During this illness, in November, the patient was troubled by fleeting pains in various joints, and this was followed by the appearance of a number of nodules in the subcutaneous tissue of the lower limbs. These gradually increased in size, the skin covering them

became reddened, and in January one of them broke down, giving rise to a fistula discharging sanious pus. One of the remaining tumours, the largest of which had attained the size of a walnut, was punctured, and the thick pus which was thus secured was utilised for cultures. Treatment with potassium iodide by the mouth was successful in leading to a rapid absorption of the tumours, leaving no trace apart from a scar in the site of the fistula, which had dried up as the swellings disappeared. The second case was that of a young soldier who developed two swellings similar in character to those observed in the other patient. One of these was incised, and the dirty yellow pus which was found was used for cultivation. Various media were tried, but the results were negative except in bouillon with or without gelatin. Even on these media growth was slow; the colonies, which were rounded, enlarged slowly, and changed from a rose tint to a deeper and deeper shade of brown. Examination of these colonies showed that they consisted of mycelial threads, straight or slightly curved and divided by transverse lines into segments which sometimes became completely separated from the main mass and themselves formed the origin of new masses. For these and other reasons the writers regard the fungus as quite distinct from that of sporotrichosis; the name which they propose for it is Chalara pyogenes, and for the disease which it appears to cause in man the term "chalarosis" is suggested. It should be added that experimental inoculation of the cultures into the subcutaneous tissues of animals provoked the formation of lesions very similar to those observed in the human subject.

Dr. Paul Ferreyrolles will give a demonstration before the Fellows of the Royal Society of Medicine on Wednesday, April 8th, at 5 P.M., on Colloidal Metals by the kinematograph, and of his experimental work showing the production of immunity by means of the hypodermic use of colloidal metals. Mr. Henry Crookes will at the same meeting give a demonstration by the ultra-microscope of various colloidal metals in solution. Very little is known in this country of the work that is being done in this connexion in France, and these demonstrations should be of great interest to the medical profession.

THE King has granted to Dr. Morden Carthew, first assistant medical officer to the local sanitary department at Bangkok, licence and authority to wear the Insignia of the Third Class of the Order of the Crown of Siam, which has been conferred upon him by His Majesty the King of Siam.

Dr. Carl H. Browning, director of the Laboratory of Clinical Pathology at the Western Infirmary, Glasgow, has been elected director of the Institute of Pathology at the Middlesex Hospital, recently erected through the munificence of Sir John Bland-Sutton.

Mr. Raymond Johnson, surgeon to University College Hospital, London, has signified his intention of being a candidate at the forthcoming election to the Council of the Royal College of Surgeons of England.

Dr. Barty King has been elected a Corresponding Member of the International Congress of the Anti-tuberculosis Association, Berlin.

SURGEON-GENERAL GORGAS AND THE PANAMA CANAL.

THE COMPLIMENTARY DINNER TO SURGEON-GENERAL GORGAS.

A DINNER was given on Monday evening last at the Savoy Hotel by the medical profession to Surgeon-General W. C. Gorgas, the principal sanitary officer of the Panama Canal Commission, who has recently been appointed Surgeon-General-in-Chief to the United States Army. Sir Thomas Barlow, President of the Royal College of Physicians of London, presided over a distinguished company, which included:—

The Archbishop of Canterbury, the Lord Chancellor, the American Ambassador, Dr. S. T. Darling (chief of the Research Laboratory of the Panama Canal Commission), Major R. E. Noble (General Inspector of the Sanitary Department of the Panama Canal Commission), Viscount Bryce, Lord Moulton of Bank, Sir Rickman J. Godlee (President of the Royal College of Surgeons of England), Sir Francis Champneys (President of the Royal Society of Medicine), Sir David Ferrier (President of the Medical Society), Dr. W. A. Hollis (President of the British Medical Association), Sir Havelock Charles (President of the Society of Tropical Medicine and Hygiene), Sir William Osler, Surgeon-General A. W. May (Director-General of the Naval Medical Service), Surgeon-General Sir L. Gubbins (formerly Director-General of the Army Medical Service), Sir Ronald Ross, Sir James Reid, Sir Frederick Treves, Mr. J. L. Griffith (the American Consul-General), Sir R. Douglas Powell, Professor Howard Marsh, Sir Dyce Duckworth, Sir William Church, Mr. Ramsey Macdonald, M.P., Sir John Jackson, M.P., Sir W. Watson Cheyne, Sir John Tweedy, Sir J. K. Fowler, Sir John Broadbent, Professor Simpson, Sir J. Rose Bradford, Sir Frederic Eve, Fleet-Surgeon P. W. Bassett-Smith, Sir A. A. Bowlby, Sir Lionel Spencer, I.M.S., Sir J. Goodhart, Sir Alfred Keogh, Sir Arbuthnot Lane, Sir J. Porter, Sir Shirley Murphy, Sir Anderson Critchett, Dr. Newsholme (Principal Medical Officer to the Local Government Board), Sir G. Newman, Sir J. Barr, Surgeon-General W. G. Macpherson, Mr. G. H. Makins, Dr. S. Monckton Copeman, Mr. James Cantlie, Dr. John Eyre, Dr. A. J. Carter, Surgeon-Lieutenant-Colonel P. J. Freyer, Dr. Arthur Latham, Sir StClair Thomson, Major S. L. Cummins, R.A.M.C., Dr. T. B. Hyslop, Dr. H. A. Latimer, Mr. P. P. Laidlaw, Dr. H. H. Dale, Dr. Guthrie Caley, Dr. R. A. Gibbons, Mr. J. B. Lawford, Dr. H. A. Alford Nicholls, Dr. Harvey Hilliard, Mr. J. H. Dauber, Dr. F. Parkes Weber, Dr. T. M. Legge, Dr. E. F. Bashford, Dr. David Thomson, Dr. J. G. Thomson, Dr. C. F. Harford, Mr. Herbert S. Pendlebury, Dr. Seymour J. Sharkey, Dr. W. Hale White, Colonel W. G. King, Lieutenant-Colonel O. L. Robinson, R.A.M.C., Major J. A. Masters, Mr. E. Alan Masters, Professor Wm. Russell, Major S. P. James, I.M.S., Dr. Edwin Rayner, Dr. G. C. Low, Colonel B. M. Skinner, A.M.S., Dr. A. K. Chalmers, Dr. Samuel West, Dr. William Hunter, Dr. P. S. Abraham, Dr. A. J. Hall, Dr. H. F. Heath, Dr. W. H. Hamer, Dr. H. H. Tooth, Dr. H. Scurfield, Dr. A. W. C. Cameron, Lieutenant-Colonel Squier, Dr. F. de Havilland Hall, Colonel A. Alcock, Dr. George Pernet, Captain A. E. Hayward Pinch, I.M.S., Dr. Dawson Williams, Mr. J. Lynn Thomas, Mr. Stanley Boyd, Dr. S. G. Moore, Mr. Horace Broadbent, Dr. Guy E. M. Wood, Dr. E. Farquhar Buzzard, Dr. W. S. A. Griffith, Dr. S. Squire Sprigge, Dr. E. S. Pasmore, Dr. Hector Mackenzie, Mr. H. G. Plimmer, Dr. Purves Stewart, Dr. W. T. Prout, Dr. T. D. Acland, Dr. G. Newton Pitt, Mr. C. B. Lockwood, Dr. Archibald Garrod, Mr. Arthur E. Barker, Mr. L. Reyersbach (Ex-President, Transvaal Chamber of Mines), Dr. F. J. Smith, Mr. T. Jenner Verrall, Mr. Deane Butcher, Mr. C. J. S. Thompson, Dr. G. William Hill, Mr. J. Y. W. MacAlister, Dr. J. Mitchell Bruce, Mr. C. A. Ballance, Mr. James Berry, Dr. H. Lyon Smith, Dr. D. E. Anderson, Dr. H. Andrew Foy, Dr. Louis W. Sambon, Mr. Percy Dunn, and Mr. Robert Donald.

The Royal toasts having been briefly proposed by the Chairman, Lord BRYCE proposed the toast of "The President of the United States," and in the course of his speech alluded to the work of the International Health Commission of the United States, whose director, Mr. Wickliffe Rose, had recently been in personal conference with the British Colonial Office, with the result that the two great Anglo-Saxon races will coöperate to fight disease, ankylostomiasis being the immediate objective of the campaign.

The AMERICAN AMBASSADOR, in responding, said that the President of the United States was a man of scientific training, who had brought his knowledge of history and theoretical government to the service of his country with most fortunate results, and he instanced the appointment of Surgeon-General Gorgas to the directorship of the Medical Department of the United States Army as a proof of scientific methods of administration.

The CHAIRMAN briefly stated that the idea of a dinner of welcome to Surgeon-General Gorgas during his visit to England had originated with Sir William Osler, and had been at once supported by Sir Havelock Charles, President of the Society of Tropical Medicine, by Professor W. J. R. Simpson, for the London School of Tropical Medicine, and by the Royal Society of Medicine, the British Medical Association, and

the Royal Colleges, and that with the view of making the occasion representative the presence had been desired of certain great men of the realm in Church and State.

Sir HAVELOCK CHARLES then proposed the health of Surgeon-General Gorgas in forcible and eloquent terms. He pointed out that the distinguished guest of the company had proved that tropical scourges could be controlled, and said that Surgeon-General Gorgas, having been given a free hand, and having made full use of the knowledge placed at his disposal by the discoveries of Manson and Ross, had controlled them in the Isthmus. Thus he had enabled his country to succeed where the brilliant French engineers had failed, for he had conquered the pestilence which had rendered the work of the French abortive.

Surgeon-General GORGAS responded with great grace and modesty. He began by alluding to the fact that 45,000 of the 60,000 labourers on the Canal were coloured subjects of the British Empire, hailing from the West India Islands. Excellent subjects of the British Crown, and members of the Church of England, they were inclined to claim the Canal, lock, stock, and barrel, and personally annexed most of the Bibles which had been presented for the use of the settlement. Their faith only faltered temporarily in the Empire to which they belonged, and that was when, without due notice, their form of payment had been changed to money orders representing a vast weekly sum, which the unprepared officials at the Barbados post-office could not cash on the spot. Confidence, said Surgeon-General Gorgas, was later restored. Referring to the progress of the Canal, he said that when he left in October the smaller boats employed in the works were passing through; it was believed that some commercial traffic would take place in July, and that the Canal would be formally opened next January. He concluded a speech, which was received throughout with signs of the obvious pleasure of the audience, by acknowledging the kindness and courtesy extended to himself and his collegues, Major Noble and Dr. Darling, during their visit, closing with a simple and sympathetic reference to the intimate emotions called up in the breast of the student of English literature by the sight of Westminster Abbey and St. Paul's Cathedral, and by walking in the streets where Dickens's and Thackeray's heroes had walked.

Sir THOMAS BARLOW briefly responded to the toast of "The Chairman," which was given by Sir WILLIAM OSLER.

SANITARY WORK AT PANAMA.

Earlier in the day Surgeon-General Gorgas gave an address before a crowded audience in the Robert Barnes Hall of the Royal Society of Medicine on the measures adopted in combating malaria and yellow fever in the Isthmus of Panama. The chair was occupied by Sir FRANCIS CHAMPNEYS, the President of the society,

The PRESIDENT, in briefly introducing the lecturer, extended to him, in the name of the society, a warm welcome for two reasons: firstly, because his work was an object lesson to the world and especially to our own country, which was so slow to encourage science. It would enable us to understand how an intimate acquaintance with the life-history of a gnat could change the map of the world. And the second count in the welcome was the fact that in a line of research in which our own countrymen had laboured so successfully this grand piece of work had been accomplished by one of our American cousins.

Surgeon-General GORGAS first dealt with the geography of the zone under consideration, explaining that the Canal was 50 miles long and ran almost due north and south.[1] The United States leased a strip of land on each side of the Canal, whose area, therefore, was about 500 square miles, two-thirds of which was rough, broken, and mountainous, the remaining one-third low and swampy. The bad health reputation of the Isthmus was chiefly due to the fact that during the last 400 years a large number of unacclimatised persons had always been present there. The climate was not very disagreeable, for while it was warm all the year round, its temperature was not so high as that of many United States localities during the summer, and its rainfall was also exceeded in other places. The perpetual moist warmth constituted ideal breeding conditions for mosquitoes. Before going to Panama he had done four years' sanitary work at Havana. It was known that the introduction of large numbers of workers into Panama would mean the outbreak of yellow fever, for there had been cases of it in 1904, in which year the Americans started their work, the French having commenced in 1880. But for the advances in tropical medicine in the meantime, probably the later army of workers would have been as much harassed by disease as were the French; and it was a matter of pride to him that the discoveries connected with the insect transmission of malaria and yellow fever were made by men of the Anglo-Saxon race. Health officers were appointed for Panama and Colon. Panama City was divided into six inspection districts, and an inspector was appointed to the charge of each. An ordinance required that every unacclimatised person should each day report himself to the sanitary inspector. It was found better and more economical to employ additional men to hunt up the people than to have an elaborate scheme of fines and punishments for failure to report. This was not very difficult, because the native was immune to yellow fever; the victim was the recently arrived white man. These persons the inspector soon got to know, and could keep in touch with them. If a non-immune person was found to be sick, he was reported to the health officer; and if the case proved to be yellow fever, he was given the option of either going to hospital or having home treatment. If the latter, a skilled member of the sanitary force screened the room or rooms selected, and the only entrance and exit was guarded by an officer to see that no unauthorised person entered. No attention was paid to the patient's clothing, because it was found that clothing could not infect the mosquito, and it would be safe to release the patient from quarantine on the third day except for the possibility of some mosquitoes having got into the screened room and become infected. Nor was it necessary, in the event of death from yellow fever, to give special attention to the cadaver, because it could not infect the mosquito. But the building, when the patient left, or died there, was carefully pasted up and fumigated. The mosquitoes were not dangerous until the tenth or twelfth day after biting. The stegomyia was a poor flier, and it spent about a week in the larval stage, during which it had to live in water. Thus it was necessary for each inspector to get round his district once a week. He had to take with him a sufficient force to attend to sanitary nuisances, such as water puddles, or tin cans, or old bottles wherein mosquitoes might breed. Ordinances were passed making it a sanitary nuisance for persons to have mosquito larvæ on their premises, and they carried with them the power for health officers to inflict punishment or fines for non-observance; but the offender was always released from the punishment when the nuisance was abated. Gentleness and persuasion were a great force with Latin-American populations, whereas police-court rigour, as we know it here, would probably result in much awkwardness in attempting to circumvent the officers. The country districts were divided into 25 sanitary districts, and they comprised 30 villages, varying in population from 8000 or 10,000 to a few hundreds. Probably the limit flight of the anopheles was 200 yards. The principal means of getting rid of the mosquitoes was by drainage; indeed, if officers resorted to other measures, that was looked upon as a confession of failure with the chief means, drainage. The principal form used was that common in farming, known as the surface drain. But owing to the rapid growth of grass in this region the ditches had to be cleared out every two or three weeks. A permanent drain was not always practicable, owing to the engineering requirements. Where conditions were favourable a concrete-lined ditch was made, but the best of all was one constructed of subsoil tiles. Sunlight and wind proved destructive of mosquito life, hence the insects sought the grass and the brushwood for shelter. Inspectors had to keep this growth cut short for a distance of 200 yards round all villages and suburban residences. He was speaking largely of the antimalarial crusade, but the remarks applied also to yellow fever. It must be remembered in the case of the stegomyia that it was the female alone which bites, and generally at night; it then sought a dark corner in which to rest while digesting its meal of blood. For killing infected mosquitoes a test-tube was used, into the bottom of which was placed material moistened with chloroform; the insect readily fell stupefied into the tube, and was detained and sent uncrushed to be counted and classified at the central office. This was done daily. If a man caught only some of the mosquitoes each day, by

[1] THE LANCET, June 3rd, 1905, p. 1530; June 6th, 1908, p. 1646.

the tenth day (on which the insect was capable of transmitting the disease) there would probably not be many survivors. Recently, out of 300 men working in a swamp there was not a single case of malaria, although less than two months before there were 200 soldiers in tents in the same locality, and in less than six weeks every man in camp had come in with malaria. One doctor counted 76 anopheles under one mosquito net, though such a density was unusual. The mosquito required a puddle of water in which the larva had to live for a week, but had to rise to the surface every minute or two for air. If the water were sprinkled with oil it clogged the breathing apparatus, and so killed the larva. Accordingly, a good deal of oil, some 1000 barrels per month, was used for places where draining was impracticable. Quinine was freely and largely distributed among the workers in the zone as a prophylactic measure and 30 dispensaries were established, but the great measure was drainage. The actual sanitary work in this area cost about £80,000 a year. In 1906 820 out of every 1000 were admitted to hospital for malaria, but last year the number had dropped to 47 per 1000. The death-rate in 1906 among negroes was 45 per 1000, and in 1913 it was 5 per 1000; while among whites in 1906 it was 11 per 1000 and in 1913 2·5 per 1000. Labour was more remunerative in the tropics than in temperate zones, and when the inevitable trend thereto was in full swing it would be gratifying to sanitarians to reflect that this was made possible through the efforts of members of the Anglo-Saxon race.

A number of slides were then shown by Major Noble and questions asked and answered by the lecturer.

A cordial vote of thanks was accorded to Surgeon-General Gorgas, on the motion of Sir WILLIAM CHURCH, seconded by Sir HENRY MORRIS, past Presidents.

MEDICINE AND THE LAW.

R. v. the Savoy Turkish Baths Company, Limited.

IN this case the defendant company was tried upon an indictment under the Merchandise Marks Act, 1887, in the King's Bench Division for having "unlawfully sold certain goods—to wit, brine baths—to which a false trade description—to wit, 'Droitwich brine baths'—had been applied," with counts varying the above charge, which arose out of the practice of the defendant company of evaporating Droitwich brine and afterwards dissolving the crystals so obtained in ordinary water. The prosecution was instituted by the trustees of the Corbett estate, the owners of the Droitwich brine baths, and after counsel had opened the case evidence was given on behalf of the Crown by Mr. Horatio Ballantyne, who informed the jury that ordinary water weighed 10 lb. per gallon, sea water 10·25 lb., the Savoy brine bath water 10·005 lb., or substantially the same as tap water, and Droitwich brine 12 lb. The waters in the Droitwich baths were radio-active, but the Savoy baths contained no radium or emanations of radium. At this point the defendants, through their counsel, intimated their intention of discontinuing their offer of Droitwich brine baths to the public, and at the suggestion of the judge withdrew their plea of "Not guilty." A verdict of "Guilty" was accordingly returned by the jury and Mr. Justice Bailhache imposed a nominal penalty of 10s. The plaintiffs are to be congratulated upon the success of the proceedings instituted by them. It is entirely for the public good that absolute accuracy should be enforced in connexion with titles applied to drugs and everything else offered for medical purposes, and the matter is one in which both medical men and their patients are interested.

Action against Guardians.

Mr. J. D. Priest was the plaintiff recently in an action against the guardians of the Edmonton union in which he claimed a superannuation allowance in respect of appointments formerly held by him as district medical officer and public vaccinator for the Waltham Abbey district. The plaintiff had resigned the appointment of district medical officer because owing to the condition of his eyesight he felt himself unable to visit badly lighted places on foot at night, or to perform duties which might be required of him as such district medical officer in a bad light. The award of a superannuation allowance had been rescinded by the board because the plaintiff was found to be retaining the appointments of medical officer to the Waltham Joint Hospital Board and the Royal Small Arms Factory, and was also carrying on practice as a member of the panel under the National Insurance Act. The plaintiff contended that either personally or with the aid of his partner he was able to meet the contingencies of night practice with regard to these, and evidence as to the condition of his eyesight was given by Mr. W. H. H. Jessop. Mr. Justice Horridge left to the jury the question: "Was the plaintiff on Jan. 1st, 1911, incapable of discharging the duties of his office with efficiency by reason of permanent infirmity of body?" This the jury answered in the affirmative, and found for the plaintiff. His lordship therefore made a declaration that he was entitled to a superannuation allowance at the date claimed by him.

Sardines and Bristlings.

Sir John Dickinson recently decided at Bow-street police-court in favour of the contention of the French packers of sardines that the word "sardine" is a false description within the meaning of the Merchandise Marks Act as applied to Norwegian bristlings shipped to England for sale as "Skipper Sardines." The trade in the Norwegian fish, sprats or bristlings, sold originally as "sprotten in ol," has existed since 1903, and greatly increased recently; the immature pilchard, the true sardine, has been packed for sale in France since 1822, and was known by that name before it came to be preserved in tins, and the same fish has been similarly preserved in Cornwall since 1874. The costs of the prosecution were said to have amounted to £2000, of which the defendants were ordered to pay £100, with a fine of £20. An appeal may take place to quarter sessions, and it will be sufficient to say in comment that, from a medical point of view and as a matter of principle, it is desirable that such a point should be settled with finality. The purchaser of an article of diet should be able to ask for it under a term which will insure his getting what he asks for without any excuse to the vendor for supplying him with something else.

Damages against an Unqualified Person Practising Dentistry.

In the Colwyn Bay county court recently Isabel Foulkes, a young woman, recovered 10 guineas damages with costs against John Hughes, practising as a dentist under the name of "The Liverpool and North Wales Dental Company," the damages being claimed for personal injuries caused by the negligence of the defendant or his servant. The plaintiff was induced by a canvasser to visit the defendant's place of business, where she was treated by an assistant employed by him. As a consequence of his treatment septic conditions were set up, and at a subsequent visit a mouth-wash was given to the plaintiff containing perchloride of mercury

apparently in the proportions of 3 grains to 6 ounces of water. As a result of using this the plaintiff suffered severely and had to be treated by Dr. T. L. Kenrick Davies and Mr. G. B. Roberts, who gave evidence on her behalf. His honour Judge Moss expressed himself as strongly influenced in his decision by the fact of a dangerous drug having been prescribed by a person wholly unqualified.

FEBRUARY AT HOME AND ABROAD.

At Home.

FEBRUARY was in some respects a remarkable month. In many parts of England it was much more rainy than usual, and at the same time more sunny, while in others it brought less rain than ordinarily and also less sunshine. Over the whole kingdom it was mild for the time of year both during the day and night. Frosts were a rarity even in the coldest districts, and the little snow that fell came in desultory showers, and over a large portion of the country south of the Humber there was none. In the metropolitan district, as represented by Kew Observatory, the mean maximum temperature was as high as 50·5°, an excess on the normal of nearly 6°, while the mean minimum was no lower than 37·8°, or 3° above the normal. On all but eight days the thermometer rose to 50° or above, and on only two nights, the 27th and 28th, did the sheltered thermometer fall below 32°. The general mildness was due to the great prevalence of winds from the south and south-west or west, vast volumes of air being drawn over the country from the relatively warm Atlantic instead of from the cold continent, which is generally the main cause of cold winter weather in these islands. These winds, humid as usual, were responsible for the large number of rainy days or nights which were experienced over the major portion of the kingdom. At Kew more or less rain fell on 18 days, and gave a total of 2·5 in., against an average of 1·6 in. On several occasions, however, the rain came in the night or evening, and did not prevent a liberal allowance of sunshine for the second month of the year. The total number of hours was as high as 81, a figure representing a mean of more than half an hour per day in excess of the average. At Bath and also in the centre of England the temperature differed little from that in London, but at Brighton the daytime was rather less warm, the mean maximum being no higher than 48°, against an average of 45°. The Sussex resort had more rain than Kew, its total amount, falling on 17 days, being 3·5 in., 1·5 in. more than the normal. It was, however, brighter. On many days the sun shone almost uninterruptedly, and the aggregate record was no less than 102 hours, or nearly three-quarters of an hour per day in excess of the average. The coasts of Devon and Cornwall were warmer than the south and south-east, but the rain was at least as frequent and generally heavier, while there was not, for once, the compensating excess of sunshine. At Torquay the sunshine record was only 65 hours, a deficit of 26⅓ hours on the average, and at Newquay, where the deficit was 16 hours, the total was 66 hours. The Scilly Islands were somewhat brighter with a total of 75 hours, but that fell short of the average by 12 hours. At Nottingham and also at Buxton the total sunshine only equalled 54 hours, but at both places the rainfall was very slight compared with the south-west coast, and was much below the normal.

Abroad.

A high temperature for February was general over much of France, Germany, and in the Netherlands, while the general character of the weather was less rainy. At Paris the mean warmth of the afternoons was the same as that at Kew, and at Brussels it was only a degree lower. The nights were also mild for the time of year, and severe frost was quite absent. They were, nevertheless, slightly colder than in nearly all parts of England. At Paris an occasional day was entirely without sun, but many others were brilliant, and the total number of hours was 108, six more than at Brighton. At Berlin slight frost was common, and the mean minimum temperature of the night time was no higher than 33°. During the afternoon the mean warmth was about the same as the coldest parts of England, the figure being 47°. Coming to the warmer spots of the continent we find that at Biarritz the month was generally fine and bright, with a mean maximum temperature of 59°. This is a high level for so early in the year, but during the greater part of the period the temperature was that of spring. Readings of 60° or above were recorded day after day, and on the 15th and 16th the thermometer rose to 70°, and the nights were correspondingly mild. The mean minimum temperature, 47°, was nearly as high as the mean maximum at Brighton and equal to that at Berlin. Like this country, the south-western corner of France was governed by the south-westerly and westerly winds throughout, and although they were very occasionally far too boisterous, their effect was to make the climate about the mildest on the mainland of Europe except the extreme south of Spain and Italy. The Riviera was cold compared to it. At Nice the mean maximum temperature was only 53°, or a single degree higher than that at Bath, and the mean minimum as low as 40°, as much as 4° lower than at the Scilly Islands and a little lower than on the mainland of the extreme south-west of England. There was no shade temperature as high as 60°, while on many nights the thermometer sank below 40°. After the 10th the weather was more or less rainy, and on several days the downpour was very heavy, especially on the 22nd and 24th. The aggregate rainfall for the month was no less than 7·2 in. divided between 11 days. Italy was mostly fine, but, like the Riviera, it had some very unsettled periods, when rain fell day after day. Generally it was little warmer than Nice over the northern districts, and except in the most southern it was seldom very warm. In Madeira rain fell on very few days, and the mean maximum temperature was about 65°. It was never quite so hot as the hottest days at Biarritz, but almost every day the thermometer ascended to some way above 60°, and at night rarely fell below 55°.

ROYAL COMMISSION ON VENEREAL DISEASES.

AT the twenty-third meeting of the Royal Commission on Venereal Diseases evidence was given by the Hon. Albinia Brodrick, representing the Irish Association and the National Council of Trained Nurses of Great Britain and Ireland, and by Miss L. Garrett, matron of the Hospital for Women and Children, Harrow-road.

Miss Brodrick thought that the first important step to be taken with regard to these diseases was to spread knowledge with regard to them and to treat the matter scientifically instead of as a mysterious something which cannot be talked about. From the nursing point of view she thought that the past nurses had not been properly taught regarding these diseases, and that in the future it was necessary that all nurses should go through some special course of instruction. The education of the general public should include the education of children in the laws of sex. This might be done in the primary schools through the medium of botany, and this would prepare the way for teaching at a later stage regarding the human subject. Special teachers would be required until parents were sufficiently educated to instruct their own children. It was necessary, however, that education on this question should be given to parents and to the general public. In this matter Miss Brodrick said that England was very much behind other nations, and she referred to the work done by the Society of Sanitary and Moral Prophylaxis in New York and to similar societies in Germany and other countries. Miss Brodrick thought that a great factor in the spread of venereal diseases was the ignorance in which women had designedly been left in regard to it. She condemned the practice in the medical profession of treating women without allowing them to know the nature of the disease. Miss Brodrick thought that greater facilities should be provided for the treatment of venereal diseases, and the evening clinics were specially important. Printed instructions should be given to out-patients dealing with the gravity of the disease, the danger of infecting others, and the necessity for carefully carrying out curative measures. The disease should be stated openly and in the case of women especially the results to the offspring clearly pointed out. Miss Brodrick thought that venereal disease should be notified; at present the notification should be confidential, but later on the notification might be simply as in the case of any other infectious disease.

Miss Garrett said that she had been matron of the Lock

Hospital, now called the Hospital for Women and Children, for the past 13 years. She gave figures of the number of patients treated at the hospital in each year since 1893, and these showed a decrease from 736 patients in that year to 340 in 1912. This fall, she said, was partly due to a change in general conditions and partly to the fact that in the earlier years women came to the hospital from garrison towns. The figures were also very much influenced by the fact that in the earlier years patients were of a class who left the hospital directly they were free from symptoms; at the present time the patients remain in the hospital for longer periods and finish their treatment. During the present year the number of patients was much larger than had been the case in corresponding periods for a number of years. Miss Garrett thought this was probably the result of the greater publicity of the subject during the last few months. The name of the hospital was changed some years ago, and this had had good results in getting rid of prejudice against the hospital; in particular, cases now came to the hospital at an earlier stage of the disease. Most of the patients treated at the hospital were very young girls, the average age being 20, and there were very few professional prostitutes.

At the twenty-fourth meeting evidence was given by Dr. Amand Routh, consulting physician to the Charing Cross Hospital and to the Samaritan Free Hospital for Women and Children.

Dr. Routh said that from figures which he had obtained he had formed the conclusion that the infant mortality before the period of full birth was as high as in the first year of life, so that the total mortality during the intra-uterine life and the first year after birth was about one-fourth of the possible children. He thought that syphilis was the main cause of stillbirths, and also probably of a large proportion of early intra-uterine deaths, and he suggested various measures which might be adopted with the object of obtaining reliable statistics, of assisting diagnosis, and of facilitating the application of treatment. These measures included the extension of the compulsory registration of stillbirths to the whole country; arrangements under which poor women might receive medical supervision during pregnancy; the provision of the pre-maternity wards in every locality; the formation and endowment of research laboratories in all general and lying-in hospitals; and arrangements for financial assistance to poor pregnant women during the later months of pregnancy. Dr. Routh said he was not in favour of the compulsory notification of venereal diseases, for unless anonymity could be secured and be believed in many men and most women would not consult a doctor, but would either remain untreated or consult venereal quacks who would greatly multiply. He felt that voluntary notification would be entirely unreliable statistically. He advocated the establishment of venereal clinics in all districts, but thought it was important that they should not be known by any name of the nature of "venereal."

BIRMINGHAM CHILDREN'S HOSPITAL. — The annual meeting of this institution was held on Feb. 23rd. The report of the board of management showed that the number of patients treated during 1913 was: in-patients 914, compared with 845 in 1912; out-patients 13,897, against 12,295; and casualties 628, against 686. The average length of stay in hospital was 22·13 days, and the average cost per week for each inmate (staff and patients) was 4*s.* 7*d.*, as against 4*s.* 5*d.* in 1912. The new building is well in hand, and the opening ceremony is expected to take place in the summer of 1915. £9000 are still required to open the new hospital free of debt. During the year the committee has been impressed with the necessity of removing the out-patient department from Steelhouse-lane to the new site, as the present accommodation is very inadequate for the present work. The cost of a new out-patient department would be about £10,000, but against this there would be very considerable economies in annual expenditure. The accounts of ordinary income and expenditure show a deficiency of £235, as compared with £86 in the previous year, owing partly to an increase in expenditure and partly to a falling off in special items of revenue. During the year there were 151 deaths, giving a death-rate of 16·5 per cent., as compared with 15 per cent. the previous year.

Public Health.

REPORTS OF SCHOOL MEDICAL OFFICERS.

Radnorshire County Council.—Medical inspection is in a very primitive condition in Radnorshire. Dr. L. W. Pole reports that as he is not supplied with adequate assistance about half his time is taken up with clerical work. Because of this second visits to schools have been impossible, and no reinspection or following-up work has been systematically carried out nor any sanitary survey of the schools made. Goitre prevails largely, but whereas in 1911 the percentage of cases among children inspected was 3·4, in 1912 it was 2·1 only. The total children inspected were 1314, and belonged to four age groups, those about 5, 7, 10, and 13 years old respectively.

Salop County Council.—Dr. James Wheatley lays emphasis on the necessity for bringing the ordinary child up to the highest pitch of physical fitness possible by removing unphysiological modes of living. The preventive work should consist of improvement of school premises, provision of proper playgrounds, efficient physical exercises, hygienic instruction of children, and coöperation with the sanitary authority to prevent damage to health before school age. The school medical officer's report is sent to the head teachers of each school and has in consequence been very widely read. This useful practice might well be imitated elsewhere. The total number of children examined in the year was 13,227, of whom 3750 were reinspections and 734 were "specials." With reference to defective vision attention is called to the defective type of school Bibles. The adoption of the British Association standards for the type of all new books is recommended and the prevention of needlework or any work involving eye-strain under eight years.

East Sussex County Council.—Mr. A. G. R. Foulerton's report includes, and gives special prominence to, special studies by Dr. Arthur Beeley on pulmonary tuberculosis among school children in the county, and by Mr. George Finch on the local distribution of cases of tonsils and adenoids. The total children examined since medical inspection began have been taken as the basis of the tuberculosis report. These children are 47,168 in number, and among these 20 cases of pulmonary tuberculosis have been found. Owing to some cases being second examinations these figures cannot be used to give a percentage, but in 24,128 which are available the percentage is 0·04. The phthisis death-rate per 1000 in 1910 for all ages in England and Wales was 1·06, in East Sussex 0·8. The low percentage of school children affected is ascribed partly to the absence of large towns and partly to only a small proportion of the population being engaged in unhealthy trades. But the chief factor is probably the method of diagnosis. Mere harshness of breath sounds and prolongation of expiration have not been accepted as evidence of tuberculosis by themselves, nor have catarrhal signs. More cases of tonsils and adenoids occur in rural areas than in urban. The distinctly urban districts of Seaford, Newhaven, and Portslade-by-Sea give percentages of occurrence of cases of enlarged tonsils and adenoids 3·6, 2·8, and 2·2; the urban districts which have predominantly "rural" characteristics of Haywards Heath and Burgess Hill give percentages of 3·72 and 3·6 respectively. The school medical officer suggests dampness as a cause; the probability would seem to be that dirty and carious teeth are commoner in the relatively backward country districts and that enlarged adenoids and tonsils depend frequently upon chronic infection from the mouth.

Devonshire County Council.—Among 17,967 children examined only 0·05 per cent. were found to have tuberculosis. Lantern lectures on tuberculosis are given in different districts by the medical officers. No reappearance of cerebro-spinal meningitis is recorded, and this is ascribed to the wet season proving unfavourable to the transmission of the virus. The various defects noted are given in tables classified according to sex, district, and age, with a paragraph of explanatory comment beneath. The method is simple and effective and makes the report easy of reference. No curative treatment is carried out except in a few cases by individual effort. Less than 40 per cent. of defects needing

remedy have been treated. The backward condition of "following-up" and hygienic work may be inferred when we note that Brixham is marked out for distinction as having something over 100 children who now clean their teeth (under the stimulus of a tooth-brush club) as against no children formerly.

Durham County Council.—The report of Dr. Eustace Hill incorporates individual reports by three of the assistant medical officers and by the school nurse, who also acts as "health visitor." In this the social conditions aspect of medical inspection is brought prominently forward. A county ophthalmologist, Dr. A. T. Paterson, is employed in treating disease of the eyes and defective vision.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In the 97 English and Welsh towns, with populations exceeding 50,000 persons at the last Census and whose aggregate population at the middle of this year is estimated at 18,120,069 persons, 8598 births and 5286 deaths were registered during the week ended Saturday, March 21st. The annual rate of mortality in these towns, which had been 15·1, 15·8, and 15·4 per 1000 in the three preceding weeks, further declined to 15·2 per 1000 in the week under notice. During the 11 weeks of the current quarter the mean annual death-rate in these towns averaged 16·4, against 16·1 per 1000 in London during the same period. Among the several towns the death-rate last week ranged from 5·3 in East Ham, 6·6 in Edmonton, 6·7 in Oxford, 6·9 in Swindon, and 7·4 in Bath, to 23·7 in Burnley, 23·9 in Plymouth, 24·1 in Dudley, 24·7 in Bury, and 27·0 in Swansea.

The 5286 deaths from all causes were 52 fewer than the number in the previous week, and included 444 which were referred to the principal epidemic diseases, against numbers rising from 397 to 441 in the four preceding weeks. Of these 444 deaths, 155 resulted from whooping-cough, 107 from measles, 73 from infantile diarrhœal diseases, 51 from diphtheria, 37 from scarlet fever, and 21 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases last week was equal to 1·3, against 1·2 and 1·3 per 1000 in the two preceding weeks. The deaths attributed to whooping-cough, which had steadily increased from 110 to 143 in the four preceding weeks, further rose to 155 last week, and caused the highest annual death-rates of 1·3 in Gateshead and in Swansea, 1·4 in Plymouth and in South Shields, 1·7 in Exeter, 1·8 in Darlington, 2·0 in Dudley, 2·1 in Sheffield, and 2·7 in Great Yarmouth. The deaths referred to measles, which had been 101, 118, and 113 in the three preceding weeks, further declined to 107 last week; the highest death-rates from this disease were 1·1 in Bradford, in Sheffield, and in Cardiff, 1·8 in Nottingham and in Stockton-on-Tees, 1·9 in Burnley and in Barnsley, 2·0 in Dudley, and 3·0 in Swansea. The fatal cases of diarrhœa and enteritis (among infants under 2 years), which had been 83, 59, and 74 in the three preceding weeks, were 73 last week; of this number 17 were registered in London, 6 in Liverpool, 6 in Manchester, 3 in Burnley, and 3 in Leeds. The deaths attributed to diphtheria, which had been 72, 60, and 67 in the three preceding weeks, fell to 51 last week, and included 16 in London and 3 in Liverpool. The deaths referred to scarlet fever, which had been 34, 34, and 31 in the three preceding weeks, rose to 37 last week, of which 8 occurred in London, 4 in Liverpool, and 3 in Birmingham. The fatal cases of enteric fever, which had been 8, 20, and 13 in the three preceding weeks, rose to 21 last week, and included 4 in London, 3 in Manchester, and 2 in Sheffield.

The number of scarlet fever patients under treatment in the Metropolitan Asylums and the London Fever Hospitals, which had steadily decreased from 3599 to 3222 in the seven preceding weeks, had further declined to 3173 on Saturday last; 319 new cases were admitted during the week, against 401, 340, and 320 in the three preceding weeks. These hospitals also contained on Saturday last 1295 cases of diphtheria, 338 of whooping-cough, 129 of measles, 79 of enteric fever, and 1 of small-pox. The 1228 deaths from all causes in London were 10 fewer than the number in the previous week, and corresponded to an annual death-rate of 14·2 per 1000. The deaths referred to diseases of the respiratory system, which had been 243, 260, and 223 in the three preceding weeks, rose to 250 in the week under notice, but were 153 below the number in the corresponding week of last year.

Of the 5286 deaths from all causes in the 97 towns, 185 were attributed to different forms of violence, and 388 were the subject of coroners' inquests. The causes of 37, or 0·7 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in London and in its 14 suburban districts, Manchester, Leeds, Bristol, Bradford, Hull, Newcastle-on-Tyne, and in 56 other smaller towns. Of the 37 uncertified causes of death, 6 were registered in Birmingham, 6 in Liverpool, 3 in St. Helens, and 2 each in Warrington, Rochdale, Sunderland, South Shields, and Gateshead.

HEALTH OF SCOTCH TOWNS.

In the 16 largest Scotch towns, with an aggregate population estimated at 2,293,200 persons at the middle of this year, 1208 births and 729 deaths were registered during the week ended Saturday, March 21st. The annual rate of mortality in these towns, which had been 17·5, 16·6, and 17·9 per 1000 in the three preceding weeks, declined to 16·6 per 1000 in the week under notice. During the 11 weeks of the current quarter the mean annual death-rate in these towns averaged 18·4, or 2·0 per 1000 above the corresponding rate in the 97 large English towns. Among the several towns the death-rate last week ranged from 6·8 in Hamilton, 11·7 in Clydebank, and 11·8 in Dundee and in Kilmarnock, to 20·0 in Aberdeen, 21·6 in Leith, and 24·1 in Greenock.

The 729 deaths from all causes were 58 fewer than the number in the previous week, and included 66 which were referred to the principal epidemic diseases, against 73 and 77 in the two preceding weeks. Of these 66 deaths, 38 resulted from measles, 10 from whooping-cough, 7 from scarlet fever, 6 from diphtheria, and 5 from infantile diarrhœal diseases, but not one from enteric fever or from small-pox. The mean annual death-rate from these diseases last week was equal to 1·5, against 1·3 per 1000 in the 97 large English towns. The deaths attributed to measles, which had been 48, 36, and 34 in the three preceding weeks, rose to 38 last week; of this number, 24 were registered in Glasgow, 7 in Edinburgh, and 2 in Paisley. The deaths referred to whooping-cough, which had been 13, 10, and 8 in the three preceding weeks, rose to 10 last week, of which 8 occurred in Glasgow. The fatal cases of scarlet fever, which had been 13, 7, and 8 in the three preceding weeks, were 7 last week, and included 3 in Glasgow and 2 in Edinburgh. The deaths attributed to diphtheria, which had been 11, 5, and 14 in the three preceding weeks, declined to 6 last week, of which 3 were recorded in Glasgow. The deaths of infants (under 2 years) referred to diarrhœa and enteritis, which had been 13, 14, and 10 in the three preceding weeks, fell to 5 last week, and included 3 in Glasgow.

The deaths referred to diseases of the respiratory system, which had been 116, 126, and 137 in the three preceding weeks, declined to 117 in the week under notice; 22 deaths resulted from different forms of violence, against 32 and 24 in the two preceding weeks.

HEALTH OF IRISH TOWNS.

In the 27 town districts of Ireland, with an aggregate population estimated at 1,205,280 persons at the middle of this year, 636 births and 463 deaths were registered during the week ended Saturday, March 14th. The annual rate of mortality in these towns, which had been 19·1, 20·8, and 19·2 per 1000 in the three preceding weeks, rose to 20·0 per 1000 in the week under notice. During the ten weeks of the current quarter the mean annual death-rate in these Irish towns averaged 21·5 per 1000; in the 97 large English towns the corresponding rate did not exceed 16·6, while in the 16 Scotch towns it was equal to 18·5 per 1000. The annual death-rate during the week under review was equal to 22·1 in Dublin (against 14·3 in London and 19·5 in Glasgow), 19·1 in Belfast, 17·0 in Cork, 15·2 in Londonderry, 20·3 in Limerick, and 15·2 in Waterford, while in the 21 smaller towns the mean death-rate rose to 20·5 per 1000.

The 463 deaths from all causes were 19 in excess of the number in the previous week, and included 35 which were referred to the principal epidemic diseases, against 35 and 33 in the two preceding weeks. Of these 35 deaths, 14 resulted from infantile diarrhœal diseases, 8 from measles, 4 from scarlet fever, 4 from whooping-cough, 4 from diphtheria, and 1 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases was equal to 1·5 per 1000; in the 97 large English towns the corresponding rate did not exceed 1·3, while in the 16 Scotch towns it reached 1·8 per 1000. The deaths of infants (under 2 years) attributed to diarrhœa and enteritis, which had been 10, 9, and 12 in the three preceding weeks, further rose to 14, of which 8 occurred in Belfast and 5 in Dublin. The deaths referred to measles, which had been 3, 8, and 4 in the three preceding weeks, rose to 8, and included 5 in Dublin. The 4 fatal cases of scarlet fever, of which 3 occurred in Belfast, were 3 below the average in the earlier weeks of the quarter. The deaths attributed to whooping-cough, which had been 6, 6, and 9 in the three preceding weeks, declined to 4, and comprised 2 in Dublin and 2 in Belfast. The 4 deaths referred to diphtheria, of which 2 were recorded in Belfast, were slightly in excess of the average in the earlier weeks of the quarter. The fatal case of enteric fever occurred at Dundalk.

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING FEBRUARY, 1914.

(Specially compiled for THE LANCET.)

CITIES AND BOROUGHS.	Estimated population in the middle of 1914.	NOTIFIED CASES OF INFECTIOUS DISEASE.											DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.									Deaths from all causes.	Death-rate per 1000 living.†
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cerebro-spinal meningitis.	Poliomyelitis.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.*	Whooping-cough.	Enteric fever.	Diarrhœa and enteritis (under 2 years).	Total.	Annual rate per 1000 persons living.		
LONDON	4,516,612	2	1681	785	—	87	2	34	357	9	—	2957	8·5	—	42	16	49	90	20	37	304	0·9	5143	14·8
West Districts.																								
Paddington	142,055	—	76	23	—	2	—	1	14	—	—	116	10·6	—	1	2	3	—	—	1	7	0·6	127	11·6
Kensington	170,817	—	57	15	—	3	1	—	8	—	—	84	6·4	—	—	—	1	1	—	3	5	0·4	208	15·8
Hammersmith	124,750	—	70	6	—	1	—	3	8	1	—	89	9·3	—	—	1	—	1	1	—	3	0·3	142	14·6
Fulham	158,849	—	107	16	—	3	—	5	15	—	—	146	12·0	—	—	1	2	3	2	3	11	0·9	187	15·8
Chelsea	63,791	—	17	8	—	1	—	1	1	—	—	28	5·7	—	—	—	1	2	—	2	5	1·0	76	14·7
City of Westminster	152,346	1	34	13	—	—	—	2	7	—	—	57	4·9	—	—	—	1	2	1	1	5	0·4	177	15·9
North Districts.																								
St. Marylebone	112,892	—	33	25	—	3	—	1	6	1	—	69	8·0	—	—	1	2	1	1	4	9	1·0	127	15·0
Hampstead	86,731	—	19	24	—	2	—	1	5	—	—	51	7·7	—	—	—	—	—	1	1	2	0·3	65	10·4
St. Pancras	212,497	—	63	38	—	3	—	2	15	2	—	123	7·5	—	—	—	3	6	1	3	13	0·8	282	17·2
Islington	324,764	—	113	55	—	13	—	1	25	1	—	208	8·3	—	2	2	2	12	4	5	27	1·1	363	14·2
Stoke Newington	50,454	—	8	13	—	1	—	—	3	—	—	25	6·5	—	—	—	2	1	—	—	3	0·8	43	10·6
Hackney	223,724	—	58	35	—	1	1	—	23	1	—	119	6·9	—	1	3	2	6	—	5	17	1·0	249	14·6
Central Districts.																								
Holborn	45,861	—	5	4	—	2	—	—	2	—	—	13	3·7	—	2	—	—	—	3	—	5	1·4	71	20·3
Finsbury	83,212	—	15	14	—	7	—	—	13	—	—	49	7·7	—	1	—	2	3	1	3	10	1·6	125	19·4
City of London	17,129	1	3	1	—	1	—	—	—	—	—	6	4·6	—	—	—	1	—	—	—	1	0·8	20	15·8
East Districts.																								
Shoreditch	108,869	—	31	15	—	2	—	—	9	—	—	57	6·8	—	—	—	3	4	—	5	12	1·4	146	18·1
Bethnal Green	127,662	—	18	37	—	1	—	—	28	1	—	85	8·7	—	1	—	2	6	—	4	13	1·3	151	16·0
Stepney	273,265	—	57	48	—	2	—	—	15	—	—	122	5·8	—	11	—	4	11	—	12	38	1·8	358	17·8
Poplar	160,222	—	39	30	—	3	—	1	8	1	—	82	6·7	—	1	2	1	6	—	4	14	1·1	212	17·0
South Districts.																								
Southwark	186,941	—	126	28	—	2	—	2	30	—	—	188	13·1	—	1	1	1	7	—	4	14	1·0	257	18·0
Bermondsey	124,213	—	51	14	—	—	—	—	5	1	—	71	7·5	—	4	—	1	—	—	—	5	0·5	145	15·2
Lambeth	296,724	—	134	63	—	7	—	5	26	—	—	235	10·3	—	1	—	2	4	1	6	14	0·6	345	14·9
Battersea	167,338	—	74	29	—	2	—	1	11	—	—	117	9·1	—	1	1	1	2	—	3	8	0·6	173	13·6
Wandsworth	338,998	—	133	50	—	2	—	5	16	—	—	206	7·9	—	—	1	4	2	1	9	17	0·7	305	11·8
Camberwell	262,020	—	108	46	—	5	—	1	20	—	—	180	9·0	—	8	1	3	3	—	5	20	1·0	279	13·7
Deptford	109,182	—	49	20	—	2	—	—	20	—	—	91	10·9	—	6	—	—	—	—	—	6	0·7	126	14·8
Greenwich	96,037	—	58	30	—	—	—	1	7	—	—	96	13·0	—	—	—	—	—	—	1	1	0·1	94	12·6
Lewisham	172,433	—	82	54	—	15	—	1	8	—	—	160	12·1	—	1	—	4	2	3	2	12	0·9	159	11·8
Woolwich	122,836	—	42	31	—	1	—	—	9	—	—	83	8·8	—	—	—	1	5	—	1	7	0·7	131	14·2
Port of London	—	—	1	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—

* Including membranous croup. † The death-rates are corrected for variations in sex- and age-constitution of the populations of the several boroughs, the population of England and Wales being taken as the standard.

The deaths referred to diseases of the respiratory system, which had been 91, 100, and 97 in the three preceding weeks, rose to 104 in the week under notice. Of the 463 deaths from all causes, 139, or 30 per cent., occurred in public institutions, and 2 resulted from different forms of violence. The causes of 24, or 5·2 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; in the 97 large English towns the proportion of uncertified causes of death did not exceed 0·7 per cent.

In the 27 town districts of Ireland, with an aggregate population estimated at 1,205,280 persons at the middle of this year, 572 births and 469 deaths were registered during the week ended Saturday, March 21st. The annual rate of mortality in these towns, which had been 20·8, 19·2, and 20·0 per 1000 in the three preceding weeks, further rose to 20·3 per 1000 in the week under notice. During the 11 weeks of the current quarter the mean annual death-rate in these Irish towns averaged 21·4 per 1000; in the 97 large English towns the corresponding rate did not exceed 16·4, while in the 16 Scotch towns it was equal to 18·4 per 1000. The annual death-rate last week was equal to 22·3 in Dublin (against 14·2 in London and 16·1 in Glasgow), 21·3 in Belfast, 24·5 in Cork, 19·0 in Londonderry, 17·6 in Limerick, and 24·7 in Waterford; while in the 21 smaller towns the mean death-rate did not exceed 13·2 per 1000.

The 469 deaths from all causes were 6 in excess of the number in the previous week, and included 47 which were referred to the principal epidemic diseases, against 33 and 35 in the two preceding weeks. Of these 47 deaths, 16 resulted from measles, 11 from whooping-cough, 9 from infantile diarrhœal diseases, 6 from scarlet fever, 3 from enteric fever, and 2 from diphtheria, but not one from small-pox. The mean annual death-rate from these diseases last week was equal to 2·0 per 1000, against corresponding rates of 1·3 and 1·5 per 1000 in the English and Scotch towns respectively. The deaths attributed to measles, which had been 8, 4, and 8 in the three preceding weeks, further rose to 16 last week, of which 14 occurred in Dublin. The deaths referred to whooping-cough, which had been 6, 9, and 4 in the three preceding weeks, rose to 11 last week, and comprised 7 in Belfast, 3 in Dublin, and 1 in Cork. The fatal cases of diarrhœa and enteritis (among infants under two years), which had been 9, 12, and 14 in the three preceding weeks, fell to 9 last week, of which 5 were recorded in Dublin and 3 in Belfast. The 6 deaths attributed to scarlet fever were slightly below the average in the earlier weeks of the quarter, and included 3 in Belfast, 2 in Dublin, and 1 in Cork. The 3 deaths referred to enteric fever were recorded in Dublin, Belfast, and Limerick respectively, and the 2 deaths from diphtheria in Dublin and Belfast respectively.

The deaths referred to diseases of the respiratory system, which had been 100, 97, and 104 in the three preceding weeks, were 105 in the week under notice. Of the 469 deaths from all causes, 151, or 32 per cent., occurred in public institutions, and 9 resulted from different forms of violence. The causes of 13, or 2·8 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; in the 97 large English towns the proportion of uncertified causes of death did not exceed 0·7 per cent.

VITAL STATISTICS OF LONDON DURING FEBRUARY, 1914.

In the accompanying table will be found summarised complete statistics relating to sickness and mortality in the City of London and in each of the metropolitan boroughs. With regard to the notified cases of infectious diseases, it appears that the number of persons reported to be suffering from one or other of the ten diseases specified in the table was equal to an annual rate of 8·5 per 1000 of the population, estimated at 4,516,612 persons in the middle of the year; in the three preceding months the rates were 11·0, 9·0, and 8·3 per 1000 respectively. The lowest rates last month were recorded in Kensington, Chelsea, the City of Westminster, Holborn, the City of London, and Stepney; and the highest rates in Paddington, Fulham, Southwark, Lambeth, Deptford, Greenwich, and Lewisham. Two cases of small-pox, belonging respectively to the City of London and the City of Westminster, were notified last month, and one case remained under treatment in a hospital of the Metropolitan Asylums Board at the end of the month. Scarlet fever was rather less prevalent than it had been in January; the greatest proportional prevalence was recorded in Paddington, Hammersmith, Fulham, Southwark, Deptford, and Greenwich. The Metropolitan Asylums Hospitals contained 3328 scarlet fever patients at the end of last month, against 4006, 3810, and 3543 at the end of the three preceding months; the weekly admissions averaged 379, against 581, 445, and 400 in the three preceding months. The prevalence of diphtheria showed a slight increase over that recorded in the previous months; among the several boroughs this disease was proportionally most prevalent in Hampstead, Stoke Newington, Bethnal Green, Greenwich, Lewisham, and Woolwich. There were 1225 diphtheria patients under treatment in the Metropolitan Asylums Hospitals at the end of last month, against 1188, 1099, and 1092 at the end of the three preceding months; the weekly admissions averaged 166, against 158, 146, and 153 in the three preceding months. The prevalence of enteric fever showed practically no variation from that recorded in the previous month; the greatest proportional prevalence of this disease occurred in St. Marylebone, Islington, Holborn, Finsbury, Lambeth, and Lewisham. The number of enteric fever patients under treatment in the Metropolitan Asylums Hospitals, which had been 72, 51, and 65 at the end of three preceding months, had risen to 82 at the end of last month; the weekly admissions averaged 15, against 11, 9, and 14 in the three preceding months. Erysipelas was proportionally most prevalent in Paddington, Hackney, Finsbury, Bethnal Green, Southwark, and Deptford. The 34 cases of puerperal fever notified during the month included 5 in Fulham, 5 in Lambeth, 5 in Wandsworth, 3 in Hammersmith, 2 in the City of Westminster, 2 in St. Pancras, and 2 in Southwark. Of the 9 cases of cerebro-spinal meningitis, 2 belonged to St. Pancras; no case of poliomyelitis was notified last month.

The mortality statistics in the table relate to the deaths of persons actually belonging to the several boroughs, the deaths occurring in institutions having been distributed among the boroughs in which the deceased persons had previously resided; the death-rates for all causes are further corrected for variations in the sex- and age-constitution of the populations of the several boroughs. During the four weeks ending Feb. 28th the deaths of 5143 London residents were registered, equal to an annual rate of 14·8 per 1000; in the three preceding months the rates had been 13·5, 14·9, and 18·4 per 1000 respectively. The death-rates last month ranged from 10·4 in Hampstead, 10·6 in Stoke Newington, 11·6 in Paddington, 11·8 in Wandsworth and in Lewisham, and 12·6 in Greenwich, to 17·2 in St. Pancras, 17·8 in Stepney, 18·0 in Southwark, 18·1 in Shoreditch, 19·4 in Finsbury, and 20·3 in Holborn. The 5143 deaths from all causes included 304 which were referred to the principal infectious diseases; of these, 42 resulted from measles, 16 from scarlet fever, 49 from diphtheria, 90 from whooping-cough, 20 from enteric fever, and 87 from diarrhœa and enteritis among children under two years of age. The lowest death-rates last month from these infectious diseases were recorded in Kensington, Hammersmith, Hampstead, the City of Westminster, Bermondsey, and Greenwich; and the highest rates in Holborn, Finsbury, Shoreditch, Stepney, and Bethnal Green. The 42 fatal cases of measles were 175 below the corrected average number in the corresponding period of the five preceding years, and included 11 in Stepney, 8 in Camberwell, 6 in Deptford, and 4 in Bermondsey. The 16 fatal cases of scarlet fever were 3 fewer than the corrected average number, and included 3 in Hackney, 2 in Paddington, 2 in Islington, and 2 in Poplar. The 49 deaths from diphtheria were equal to the corrected average number; this disease was proportionally most fatal in Paddington, Stoke Newington, Finsbury, Shoreditch, and Lewisham. The 90 fatal cases of whooping-cough were 39 below the corrected average number; the highest death-rates from this disease were recorded in Islington, Finsbury, Shoreditch, Bethnal Green, Stepney, Poplar, Southwark, and Woolwich. The 20 deaths from enteric fever were 9 in excess of the corrected average number, and included 4 in Islington, 3 in Holborn, 3 in Lewisham, and 2 in Fulham. The mortality from diarrhœa and enteritis among children under two years of age was proportionally greatest in St. Marylebone, Finsbury, Shoreditch, and Stepney. In conclusion, it may be stated that the aggregate mortality in London last month from the principal infectious diseases, excluding diarrhœa, was 51·1 per cent. below the average.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments have been notified:—Fleet-Surgeons: J. H. Stenhouse to the *Prince of Wales*, temporary; and A. X. Lavertine to the *Monarch*, on recommissioning. Staff-Surgeon: J. C. Bringan to the *Victory*, additional, for disposal. Surgeon: R. J. Barlee to the *Monarch*, on recommissioning.

ARMY MEDICAL SERVICE.

Surgeon-General George W. Robinson, C.B., is placed on retired pay (dated March 22nd, 1914).

ROYAL ARMY MEDICAL CORPS.

Colonel R. S. F. Henderson has been selected as Assistant Director of Medical Services to the Fourth (Quetta) Division of the Southern Army in India. Brevet-Colonel and Lieutenant-Colonel S. Hickson has been selected as Inspector of Medical Services at the War Office. Colonel C. E. Nichol, D.S.O., has taken up duty on the Headquarters Staff of the Jubbulpore and Jhansi Brigades as Assistant Director of Medical Services.

Lieutenant-Colonel F. J. Morgan has arrived home from India. Lieutenant-Colonel M. P. C. Holt, D.S.O., has been appointed to the Aldershot Command. Lieutenant-Colonel T. B. Winter has been appointed to the charge of the Military Hospital at Canterbury. Lieutenant-Colonel J. Kearney has been appointed to the medical charge at Landguard Fort. Lieutenant-Colonel J. F. Donegan has embarked for a tour of service in India. Lieutenant-Colonel C. C. Reilly has been selected as Senior Medical Officer at the Military Hospital, Calcutta. Lieutenant-Colonel A. Kennedy has been placed under orders for service abroad during the trooping season.

Major H. W. Grattan has been selected for appointment as Honorary Surgeon to the Viceroy and Governor-General of the East Indies. Major E. W. Bliss has been appointed to the Eastern Command for a tour of duty. Major H. P. W. Barrow has been appointed for temporary duty at the Medical Division of the War Office. Major M. H. Babington has taken up duty in the London District. Major F. Harvey has been appointed to the Military Hospital at Colaba. Major H. W. Long has joined at Upavon. Major P. S. O'Reilly has been appointed to the Medical Staff of the Royal Arsenal at Woolwich. Major A. M. Maclaughlin has been appointed to hold charge of the Military Hospital, Bellary Cantonment. Major L. M. Purser has joined at Meerut Cantonment. Major R. L. Argles has been appointed to the Military Hospital at Ferozepore. Major J. T. Johnston has been transferred from Bareilly to Lucknow Cantonment. Major F. S. Penny has been appointed to the Irish Command.

Captain T. S. Dudding has been transferred from the Bombay Brigade to Belgaum Cantonment, for duty at the Military Hospital. Captain P. S. Stewart has been appointed to the Southern Command for duty. Captain W. K. Beaman has arrived home from the Military Hospital at Malta, tour expired. Captain A. G. Jones has been selected for appointment as Officiating Staff Surgeon at Rawal Pindi Cantonment. Captain N. D. Walker has taken up duty at the Military Hospital, Quetta Cantonment. Captain A. C. Amy has joined at Agra. Captain N. Low has taken up duty as Specialist Sanitary Officer at the Military Hospital, Colchester. Captain J. A. Bennett has been appointed to the Dublin District for duty. Captain W. F. H. Vaughan has arrived home on leave of absence from Malta. Captain F. C. Lambert has been selected for appointment as Specialist in Advanced Operative Surgery to the Lucknow Division. Captain H. T. Stack has joined at Ranikhet. Captain E. B. Lathbury has been appointed to the Cork District for duty. Captain T. C. Lucas has arrived home on general leave of absence from the Military Hospital at Bombay. Captain A. L. Stevenson has been transferred from Nowshera Cantonment to Secunderabad. Captain G. F. Dawson has arrived home on general leave of absence from Chakrata Cantonment. Captain J. H. Douglass has embarked for a tour of service in the Sierra Leone Protectorate.

Lieutenant T. E. Osmond has been appointed to the Military Hospital at Lucknow. Lieutenant L. Buckley has taken up duty at Rawal Pindi. Lieutenant W. McNaughtan has been transferred from Devizes to Netley. Lieutenant R. T. Vivian has been appointed to the Military Hospital at Bangalore. Lieutenant E. B. Allnutt has taken up duty at the Military Hospital, Poona. Lieutenant E. G. H. Cowen has been detailed for a course of Indian sanitation and hygiene at the Military Hospital, Lucknow. Lieutenant F. R. B. Skrimshire and Lieutenant D. W. Bruce have embarked for a tour of service in India.

INDIAN MEDICAL SERVICE.

The King has approved the promotion of the following officers of the Indian Medical Service:—Majors to be Lieutenant-Colonels (dated Jan. 29th, 1914): John Fisher, D.S.O., Stanley Arthur Harriss, David Waters Sutherland, William Selby, D.S.O., V.H.S., Vivian Boase Bennett, and Charles Ross Pearce. Captains to be Majors (dated Jan. 29th, 1914): Samuel Herbert Lee Abbott, Alexander William Greig, Richard James Bradley, James Woods, Thomas William Harley, John William McCoy, Roger Durrant Willcocks, Thomas George Ferguson Paterson, Dewan Ganpat Rai, Robert Macpherson Barron, William Reith John Scroggie, and Herbert Henry George Knapp. Lieutenants to be Captains (dated Jan. 28th, 1914): Alister Ralph Speirs Alexander, Frederick William Hay, George Tate, Sidney Milverton Hepworth, and Jyoti Lal Sen.

Colonel R. W. S. Lyons has been appointed Surgeon-General with the Government of Bombay.

Lieutenant-Colonel and Brevet-Colonel B. G. Seton, Deputy Director-General, has been granted nine months' furlough home from India. Lieutenant-Colonel F. J. Dewes has joined at Myingyan. Lieutenant-Colonel C. A. Johnston has been appointed Senior Medical Officer at Bangalore Cantonment.

Major L. T. R. Hutchinson and Major F. S. C. Thompson have arrived home on general leave of absence from India. The services of Major W. D. A. Keys have been placed permanently at the disposal of the Government of Bombay. Major W. H. Cox has been granted six months' extension of leave home from India. Major N. E. H. Scott has been appointed Consular Surgeon at Mohammerah and Agency Surgeon (Second Class). Major E. E. Waters has been appointed Civil Surgeon, Calcutta. Major A. W. F. King has taken over charge of the Special Prison at Aden. Major G. Macpherson has been granted three months' privilege leave of absence. Major J. E. Clements has been confirmed in the appointment of Superintendent of Central Prisons.

Captain A. C. Munro has arrived home from India. The services of Captain A. F. Hamilton have been placed permanently at the disposal of the Government of Bombay. Captain A. Barnardo, on return from furlough, has been appointed Civil Surgeon at Comilla. Captain D. C. V. Fitzgerald has taken over charge of the Central Prison at Hyderabad, vice Captain W. A. Mearns. Captain L. Cook has been selected for appointment as Civil Surgeon at Sambalpur. Captain B. B. Paymaster has taken up duty at Karwar as Civil Surgeon. Captain H. H. G. Knapp has been appointed Superintendent of the Central Jail at Rangoon. Captain A. T. Pridham has been appointed to the charge of the Central Jail at Mandalay.

SPECIAL RESERVE OF OFFICERS.

Royal Army Medical Corps.

John Gray Ronaldson to be Lieutenant (on probation) (dated Feb. 23rd, 1914).

Lieutenant Charles W. C. Myles resigns his commission (dated Jan. 7th, 1914).

TERRITORIAL FORCE.

Royal Army Medical Corps.

2nd South-Western Mounted Brigade Field Ambulance, Royal Army Medical Corps: Captain John R. Benson to be Major (dated March 15th, 1914).

2nd East Lancashire Field Ambulance, Royal Army Medical Corps: Major Fred D. Woolley resigns his commission, and is granted permission to retain his rank and to wear the prescribed uniform (dated March 21st, 1914).

2nd Welsh Field Ambulance, Royal Army Medical Corps: Charles William Chester Myles (late Lieutenant, Royal Army Medical Corps, Special Reserve) to be Lieutenant (to be supernumerary) (dated March 25th, 1914). Ivor Jones Davies to be Lieutenant (to be supernumerary) (dated Feb. 16th, 1914).

3rd Northern General Hospital, Royal Army Medical Corps: Major Arthur M. Connell to be Lieutenant-Colonel (dated Feb. 20th, 1914).

Wessex Clearing Hospital, Royal Army Medical Corps: Captain Clarence Isidore Ellis, from the List of Officers attached to Units other than Medical Units, to be Major (dated March 25th, 1914).

Attached to Units other than Medical Units.—To be Captains: Lieutenant Cuthbert D. S. Agassiz (dated Oct. 30th, 1913), Lieutenant Francis D. Blandy (dated Nov. 3rd, 1913), and Lieutenant Edward O. Libbey (dated Feb. 16th, 1914). Major William B. Fergusson resigns his commission, and is granted permission to retain his rank and to wear the prescribed uniform (dated March 21st, 1914).

SURGEON-GENERAL GORGAS.

Surgeon-General W. C. Gorgas, of the United States Army, who is being honoured by the medical profession in this country during his visit to England, was on March 18th entertained at dinner by the Director-General of the Army Medical Service and the officers of the Royal Army Medical Corps in their mess at the Royal Army Medical College, Grosvenor-road. Dr. Darling and Major Noble were also guests, and among those present were Surgeon-General May (Director-General of the Royal Naval Medical Service), Sir William Osler, Sir Ronald Ross, Professor Martin (Lister Institute), Professor Nuttall (Cambridge), and Surgeon-General Evatt.

DEATHS IN THE SERVICES.

Surgeon-General Sir Arthur M. Branfoot, K.C.I.E., I.M.S. (retired), at Folkestone on March 17th. He entered the Indian Medical Service in 1872, became Lieutenant-Colonel in 1895, and retired in 1903. Shortly after entering the service he was appointed civil surgeon at Cocanada, and later was resident surgeon at the General Hospital, Madras, and professor of hygiene at the Madras Medical College. Being greatly interested in the medical treatment of women he was appointed superintendent of the Government Maternity Hospital, and in 1881 became professor of midwifery there. In 1898 he saw service in Burma, where he was principal medical officer of the Rangoon District. In 1901 he was appointed surgeon-general to the Government of Madras, and later served as principal medical officer of the Bangalore and Southern Districts. Surgeon-General Sir Arthur Branfoot was President of the Medical Board at the India Office and a member of the Advisory Board for Army and Medical Services from 1904 till 1913.

MEDICAL PRACTICE UNDER THE INSURANCE ACT.

(BY OUR SPECIAL COMMISSIONER.)

(*Continued from p. 776.*)

XL.—LONDON: MAINLY NON-PANEL VIEWS.

THE survival under the Insurance Act of some of the abuses which prevailed under the old forms of club practice is a matter that naturally gives rise to much anxious discussion. Some insured persons complain that they are paying twice as much as formerly for treatment and getting no better service or attention than they did before the Act.

There used to be club doctors who could organise for the very rapid treatment of numerous patients, and they sometimes made incomes amounting to as much as £1000 a year from subscribers of 4*s.* annually, and managed to achieve considerable popularity at the same time. To-day, if these subscribers have become insured persons and remain faithful to their club doctor who is now on the panel, the latter may be giving the same sort of attendance to the same people, but is receiving twice the pay. It is reasonably argued that if the situation has to be found fault with, the fault lies at the patient's own door, and that in course of time he will discover how to get better treatment. But there is the other point of view—namely, that scrupulous practitioners may discover they are giving themselves more trouble than necessary, and that it pays very much better in contract practice to imitate the methods of the former club doctors. "The club doctors are teaching us to do the work easily and cheaply," has remarked to me more than one practitioner who under the Act was being obliged to do contract practice for the first time. It is the old difficulty of finding the *juste milieu*—the line between giving an insured person the same attendance as if he were a private patient, which on ordinary business principles may be difficult, and repeating stock mixtures, which may or may not be serviceable in the case, as in the old club days. Under the Act it is a prescription and not a bottle that must now be given, and this in itself constitutes an improvement, for the prescription is a witness of the treatment adopted and therefore increases the practitioner's sense of responsibility. In settling what is the *best* treatment possible to be given there can be no rule. What the practitioner on his side does and what the patient on the other side expects must differ much more in some instances than in others; therefore in my journeys round I hear nothing but complaints in one quarter, and perhaps in the next streets many express themselves as highly satisfied.

Insured Persons in Workhouse Infirmaries.

At Wandsworth I saw a Poor-law doctor who very emphatically insisted that his parish was giving just as much medical aid as it did before the Act. He is, he said, constantly sending to the workhouse infirmary insured persons who have fully paid up insurance cards. Panel doctors, he complained, "cart off their bad cases to the parish doctor." The excuse generally given is that the patient cannot be properly attended in his home. The parish doctor, on his side, dares not refuse recommendation to the workhouse for fear the patient should die without treatment, and there are now insured persons dying in the Poor-law workhouse infirmaries. From Edinburgh and other towns similar complaints have been received. The number of permanent old paupers that used to be on the parish books has decreased, but this is a consequence of the Old Age Pensions Act and not of the Insurance Act. As for sanatorium benefit, it may, and indeed, I presume, will come in good time, but in the meanwhile many tuberculous cases in various parts of the country are being sent to the workhouse infirmary as formerly.

I have been asked whether these panel doctors who get rid of their troublesome cases by converting their patients into paupers are to receive the money paid by those other insured persons who do not employ any medical man on a panel, but subscribe for medical aid twice over that they may exercise their freedom of choice. Here at Wandsworth I have seen and talked to poor people, very poor people, who, though insured, pay a penny a week, preferring to consult one of the doctors of the Wandsworth Medical Aid Society, for example, rather than go to a panel doctor. But as a doctor of the Medical Aid Society remarked: "If I were to go on the panel, these poor people would come to me, because they are faithful to me. Am I right in compelling them to incur an extra expense they can ill afford? Perhaps I ought to go on the panel for their sakes." By not going on the panel he had, as a matter of fact, lost about a thousand patients, judging from his previous records of practice. Some of his old patients came and consulted him, though they were insured, and they paid shilling fees, but they were so miserably poor that he often had to remit the shilling. He preferred to attend such persons for a penny a week.

A good deal of hesitation exists in different London districts turning upon these points. While some doctors are wondering whether they had not better, after all, go on the panel, others have retired. One of these I hear left the panel after sending a circular to all the insured persons on his list explaining his motives for so doing. The difficulty has been more or less met sometimes by partners, one of whom goes on the panel and the other keeps off, thus striving to please all parties.

Absentee Panel Doctors.

From Wandsworth I went to Finsbury. Though this is a very different part of London in many respects, I found some analogous conditions, and, of course, others quite special to the district. One peculiarity of Finsbury is the great reduction of the population and the improvement in their conditions of life. Some 30 years ago there were 166,000 inhabitants, many of them crowded together in appalling slums. Now most of the slums have disappeared and there are only 86,130 inhabitants, of whom from 26,000 to 28,000 are insured persons. During the last 10 years the local improvements have been marked. The poorer section of the community have migrated to Walthamstow and more outlying districts, and if those who remain are still crowded according to modern estimates they are not so very poor. There is a large lodger class. The principal occupations are the butchering trade and general occupation in the meat market, though there are many printers and persons employed in the carrying trade. The latter are the worst paid section of the inhabitants, but there is comparatively little extreme poverty in Finsbury.

To attend to this population there are 24 medical practitioners residing in Finsbury, and in January, 1913, when the Insurance Act first came into force, only three of them went on the panel. But this

does not mean very much, as the area is small and medical men from the surrounding districts attend to patients in Finsbury and are inscribed on the Finsbury panel. To-day of the medical men residing in Finsbury 11 are on the panel, as is also the medical officer of the Finsbury Dispensary. Only seven residents are not on the panel. Also there are not only many doctors on the Finsbury panel who do not live in the district, but some of them reside a very long way off. This constitutes so serious a grievance that its occurrence, if it became frequent, should be prevented, even if for this purpose further legislation is necessary. One of the Finsbury panel doctors, who has a list of about 2000 insured persons, lives at Clapton. A couple of partners who have a list between them of 3000 to 4000, live at Stoke Newington. Another firm of two doctors, who also have a long list of patients, live in Bloomsbury. This firm is much nearer, but even they live quite a mile away from their patients. Of course, the doctors on the panel have surgeries in the Finsbury areas, but what is to happen in a case of emergency and any night call? Many a patient in the Finsbury district lives too far from his panel doctor to be expected to go to fetch him.

Some scandals have arisen in connexion with this sort of thing, if the facts have been correctly reported to me. A doctor who lived some miles off, and who was on a panel at Hampstead, bespoke some rooms in the district where he intended to establish a surgery, but was never present to sign the red tickets of those who placed their names on his list. Of course, it is well known, and has been often stated in THE LANCET, that many doctors put their names promiscuously on various panels presumably on the offchance that something worth having might result. Then when they found but few insured persons elected to be on their list they gave the matter up. Though they did no work, never signed a red ticket or saw a patient, their names increased the length of the list of panel doctors, and the longer the list became the more those who were hesitating felt they had better hasten to join before it would be too late. Thus even broken promises were of use to the advocates of the Act, whose good features have been so obscured by these and similar blemishes.

Prosperity of Non-Panel Doctors.

As already stated, on a former occasion, the impression prevails that in an industrial district, where nearly all the practitioners are on the panel, there is an opening for one or two non-panel practitioners. But in Finsbury a larger number of practitioners have found it advantageous not to go on the panel. Calling on one of the most prominent of these non-panel practitioners, he told me that with the aid of a partner he used to attend to 1850 subscribers belonging to various clubs. But when the Insurance Act came into force these club patients were largely scattered among the panel doctors by becoming insured persons. During the first month after the Act came into force he consequently experienced a loss of £50. But the disadvantages of contract practice, as established by the Act, soon became apparent to the population of Finsbury, and the loss at first experienced was later turned into a profit. By the end of 1913 the receipts, as compared with the previous year, had augmented to the extent of £200 for the two partners. A neighbouring practitioner who earned in 1912 from clubs £400, and from private practice £300, in spite of the loss of all his clubs when the Act came into force, found that his receipts for 1913 have risen to £900, an increase of £200. Though I was not able to get the precise figures I am assured that the other Finsbury practitioners who have not gone on the panel are not suffering in any way.

This remarkable state of affairs is attributed to the fact that the list of insured persons whom the panel doctors of the district have undertaken to attend is far too long. They consequently cannot examine the cases properly. A large proportion of the patients attended by non-panel doctors in the Finsbury district are insured persons. But the work of the non-panel doctor is much more arduous than it used to be when he attended, before the Act, to club patients. There are now for him very few trivial cases. When an insured person comes and pays a fee it is because he is really ill and does not feel that his panel doctor has sufficiently studied the case.

Some examples of inefficient treatment by panel practitioners, owing to haste and overwork, were given to me with much detail. These, when substantiated, form very pungent criticisms of the Act in its present form, for one of the great advantages claimed as resulting from the Act was precisely the early detection and nipping in the bud of disease, together with the prevention of infection. But if panel doctors have not time to examine their patients properly the claim becomes of no account.

A great number of medical practitioners used to do club work as their contribution towards the relief of distress. They could not afford to have many club patients if they treated them as carefully as private patients, but thought it was right to give such treatment to labourers and others who really could not be expected to pay fees. Now, to-day, these doctors who did the club work well and conscientiously have not hurried on to the panel; on the contrary, it is the club doctor who so arranged matters as actually to make a big profit out of the 1*d.* a week the club member paid who hurried on to the panel, and he saw in the Act an opportunity of getting double pay for the same amount of work. Thus it is that, at least in Finsbury, the public are beginning to draw a line of demarkation between the panel and the non-panel practitioner, and this I hold to be disastrous to the progress of medical science.

(To be continued.)

QUEEN VICTORIA'S INSTITUTE FOR NURSES.—The following members of the medical profession have been appointed by Queen Alexandra to the council of Queen Victoria's Jubilee Institute for Nurses to hold office until 1917: Sir Dyce Duckworth, Surgeon-Lieutenant-Colonel Sir Warren Crooke-Lawless, Dr. A. H. F. Barbour, Dr. Arthur Shadwell, and Mr. Charters J. Symonds.

A RADIUM FUND FOR PORTSMOUTH.—An appeal for procuring a supply of radium for Portsmouth and district made by the *Portsmouth Evening News* has met with a generous response, the sum of £1000 having been contributed within a week. A conference has been held, under the presidency of the mayor, for the purpose of forming a trust to represent the subscribers, who will obtain the radium as soon as possible and make arrangements for its safe custody at the Royal Portsmouth Hospital. According to the terms of the appeal the radium will be available for all classes of sufferers in the district. The fund is still open, and it is proposed that any balance not immediately required shall be invested by the trustees to form the nucleus of a permanent fund for the purchase of radium or of any other remedial agent for the treatment of cancer which medical science may discover.

Home and Foreign Notes.

(FROM OUR OWN CORRESPONDENTS.)

LIVERPOOL.

Memorial to Sir Rubert Boyce.

THE late Sir Rubert Boyce was professor of pathology at the University of Liverpool, the first bacteriologist to the city of Liverpool, and also one of the founders of the Liverpool School of Tropical Medicine. To keep his memory green the entrance hall of the Thompson Yates laboratories of the University has been embellished by Mr. C. J. Allen, the well-known sculptor, with a beautiful mural tablet, having as a centre-piece a representation in marble of the deceased scientist's features, still familiar to the University and many in the city. The ceremony of unveiling the tablet was performed on March 20th, in the presence of a number of subscribers to the memorial, by the Vice-Chancellor of the University, Sir Alfred Dale. Prior to the ceremony the company assembled in the surgery theatre, under the presidency of Mr. J. W. Alsop, the Pro-Chancellor, when Sir Alfred Dale, in offering the memorial to the University on behalf of Mr. J. W. Hughes and others associated with him, spoke eloquently of Rubert Boyce. Where others already had their place it was right, he said, that Boyce should share the honour as he had shared the service and the struggle. What more natural home for his memorial could there be than the laboratories with which he would ever be associated? Boyce loved the University of Liverpool. Without him the University of Liverpool might have arisen, but would not have been what it was to-day. The monument spoke of one among his many ventures, in which he and his colleagues confronted, challenged, defied and defeated disease in alliance, as it seemed, with the forces of Nature in her most malignant moods. The battle was not over yet. The men who led the way—Alfred Jones and Rubert Boyce—had fallen before they reached the end. But in any great effort they owed most to the men who first believed that the effort was worth making, and that success, though distant, might still be won. The memorial had a pathos of its own. The form and face that they saw there were not those that they recalled in earlier years. Boyce had known disappointment, pain, weakness, the desolation of bereavement. Time had wasted and worn him; but he was still intrepid, still eager, adventurous, impatient as of old; broken in body but whole in spirit. That was the man they knew and admired and the friend they remembered with honour and affection. Mr. Alsop accepted on behalf of the University a memorial of one who was "a great man of the University and of Liverpool, a man of high ideals, intrepidity, perseverance, and deep sympathy." Professor Ernest E. Glynn, a co-worker for 12 years, bore testimony to the indomitable energy of Sir Rubert Boyce. He suggested that Boyce's many friends might like to subscribe to some memorial which would be more vital than a marble monument and which would tend to increase scientific knowledge, and offered, if there was any general feeling in the direction, to act as convener of a meeting of subscribers.

Dinner to Professor C. S. Sherrington.

The University Association entertained Professor Sherrington at a farewell dinner on March 14th at the New Midland Adelphi Hotel, on the occasion of his leaving Liverpool to take up his appointment to the Waynflete chair of physiology in the University of Oxford in succession to Professor Francis Gotch, who likewise went from Liverpool to Oxford.

Medical Magistrate.

The addition of the name of Dr. W. Macfie Campbell to the commission of the peace for the city has given great satisfaction to his professional brethren. Dr. Campbell is consulting surgeon to the David Lewis Northern Hospital, and has been president of the Liverpool Medical Institution and also of the Liverpool Athenæum.

Annual Service for the Northern Hospital.

The Lord Mayor and Lady Mayoress of Liverpool, along with members of the city council and representative members of the David Lewis Northern Hospital staff, attended Divine Service in St. Luke's Church, Liverpool, on Sunday last (March 22nd), when collections were made in aid of the institution. Shortly before 11 o'clock a procession was formed in Leece-street, and along a route lined with spectators the Lord Mayor and party walked to the church, where a large congregation was gathered. The sermon was preached by the Rev. Russell Darbyshire. The offertory realised £54 17*s*.

March 24th.

SCOTLAND.

West of Scotland Branch of the Incorporated Dental Society.

AN interesting exhibition of surgical and mechanical appliances for the use of dentists was opened last week in Glasgow. The exhibition, which was organised by the West of Scotland Branch of the Incorporated Dental Society, was held in conjunction with the annual meeting of the branch. At the meeting an address was delivered on the subject of Dental Politics, which dealt with the question of a National Dental Service. It was pointed out that in the near future dental insurance benefits would be offered in a comprehensive manner, and the question was how this could be so accomplished that students might be attracted to the dental schools. It was suggested that dentistry should be freed from the semi-medical course and from the control of the Medical Council.

Royal Hospital for Sick Children, Glasgow.

In view of the approaching completion and opening of the new Royal Hospital for Sick Children, Glasgow, the directors have made several appointments to take effect when a transference is made from the old hospital. Dr. T. Kennedy Dalziel with Mr. R. H. Parry, and Dr. R. Barclay Ness with Dr. J. B. McKenzie Anderson, who have long been respectively visiting surgeons and physicians, are to be consulting surgeons and physicians in the new hospital. Dr. Alfred A. Young and Dr. Alexander MacLennan, for many years connected with the out-door department, are to be visiting surgeons in the new hospital. Dr. Leonard Findlay, who has also a long connexion with the hospital, is to be visiting physician.

A Hospital for Orkney.

At a meeting of the trustees of the Balfour Hospital, Kirkwall, the clerk read a letter from Mrs. Garden, widow of the late Bailie Robert Garden, of

Kirkwall, in which she stated that her family wished to present to Orkney, in memory of her late husband and their father, a hospital of up-to-date design and adequate for the requirements of the county of Orkney, including the burgh of Kirkwall. Details as to site, building, and accommodation are under consideration, and the trustees will be advised as progress is made therewith.

Small-pox in Aberdeen.

Two further cases of small-pox are reported in Aberdeen—one that of a woman in a small shop in the same street as the family who first succumbed, and the other that of a young medical graduate studying for the Diploma in Public Health. With regard to the former it has now transpired that the mother of the family originally infected, who herself developed the rash after she, with other members of the family, had been removed to hospital, visited this shop and talked for some time with the owner one or two days before being removed to hospital. The second victim had, along with other members of the D.P.H. class, been given the opportunity of seeing the cases in the hospital; but only those who stated that they had been revaccinated were allowed to enter the ward, among those being the graduate who has developed small-pox. It is understood that on three separate occasions he had been revaccinated, but in no instance had it been successful, and the graduate considered himself immune. Both cases are slight.

Dundee and Phthisis.

Dundee public health committee has come to an arrangement with Arbroath to treat tuberculous patients from that burgh in Ashludie Sanatorium, rights over six beds being ceded to Arbroath, for which £15 per bed per annum of standing charges should be paid, and 30s. per week for maintenance charges while the beds were occupied. Arbroath also asked for attendance at Arbroath Dispensary by an assistant tuberculosis officer, and the committee agreed to appoint an assistant tuberculosis officer so that this might be done, Arbroath to pay £100 towards his salary.

Proposed Children's Hospital for Dundee.

At a recent meeting of the court of the governors of Dundee Infirmary it was intimated that the provision of a new children's hospital had been receiving the earnest consideration of the governors. Although hampered through lack of funds, the directors were prepared to open a second ward for children in the infirmary if financial support was forthcoming; they had the ward accommodation waiting to be occupied, and building accommodation was already started to accommodate more nurses, who would be necessary for this and other demands. It is thought by many that the accommodation for sick children in the General Infirmary is inadequate, and that a city of the magnitude of Dundee should have a special hospital for sick children; Dundee has an extremely high infant mortality. 3000 children were attended in the out-patient department of the infirmary during last year, and 45 beds in the infirmary and 35 in the sanatorium were occupied by children. But as a large proportion of them are suffering from tuberculous disease, in view of the possible extension of the Government scheme to children there is naturally hesitation as to inaugurating a large and costly scheme at the present juncture.

March 24th.

IRELAND.

Alleged Malingering.

THE Irish Medical Committee some months ago gave directions to the Local Medical Committees in the panel areas to make inquiries as to whether malingering under the National Insurance Act took place in such areas, and in particular to investigate specific complaints, if any were forthcoming, against particular medical men for laxity in certification. The local medical secretaries applied to the societies operating in their respective areas for information on the point, and the replies received have now been laid before the Irish Medical Committee. A few of the societies declined to give any help, but many others have replied fully. None venture to make any specific charges. The secretary of one of the largest societies in the North of Ireland has borne testimony to the very conscientious manner in which the profession of county Antrim has discharged the duty of certification, though he thinks that some medical men have confused incapacity of a patient to follow his ordinary occupation with incapacity to work. The Cork representative of a large English society also bears testimony to the thoroughly honest way in which certificates have been given by medical men in Cork. Many secretaries declare that they have not experienced any excessive claims for sickness benefit. Only one secretary, that of a small diocesan society, makes any general charge of laxity, but he gives no particulars. It may be fairly assumed from the replies that on the whole there has been no just cause of complaint against the profession. The charges, which have been freely made prior to this inquiry, appear to have been formulated merely for the purpose of discrediting the profession, with the view of having the appointment of paid certifiers given to certain societies at the public expense.

The Local Government Board and the Appointment of a Medical Officer of Health.

The Tobercurry union is a large area in county Sligo, with a population of between 19,000 and 20,000 persons. It includes a town and a wide country district, and town and country alike have for years past suffered from the ravages of typhoid fever, the source of which has not been discovered. The duties of medical officer of health are performed, each for his own district, by the four dispensary medical officers at salaries amounting in sum to £60 a year. The guardians have recently proposed to appoint a superintendent medical officer of health at a salary of £40 a year. This proposal seems to err, if at all, on the side of modesty, but this is not the opinion of the Local Government Board, without whose sanction the appointment cannot be made. The Board has written to the guardians, pointing out that if the appointment is made three-fourths of the expense must be borne by the ratepayers. Not content with this, it is added that if such an official be appointed the Board will insist on his residing within the union. This condition is impossible to fulfil, as there are already as many medical men resident in the union as can reasonably hope to make a living there, and even an Irish medical officer of health cannot live on £40 a year. The restriction is all the more absurd in that Tobercurry lies midway between two considerable

towns, Sligo and Swinford, both of which are within easy reach by rail or motor.

Belfast Ophthalmic Hospital.

At the annual meeting of the friends of the Belfast Ophthalmic Hospital held on March 16th, the report presented showed that 189 patients were admitted to the institution for treatment, while 1521 eye cases and 769 ear, nose, and throat patients sought advice and treatment in the extern department. Financially the total income for the year was £477 11*s.* 3*d.*, the expenditure £393 7*s.* 6½*d.*, leaving a balance in hand of £84 3*s.* 8½*d.*

March 24th.

PARIS.

The Effect of Sunlight on Nutrition.

Dr. Laveran recently brought before the Académie de Médecine some experiments made in Algeria by Dr. Miramond, of Laroquette, which tend to show that the sun's rays can determine in the tissues certain reactions of a nutritive character. Guinea-pigs were enclosed in glass cases on the terraces of Algerian houses and received a fixed ration of 4 grammes of oats for each 100 grammes of body weight during the winter. When the ration was reduced to 3 grammes on days when the sun was powerful the guinea-pigs' weights remained exactly the same. The author, who, however, does not appear to have investigated whether the animals underwent less muscular exertion on the hot days, thus lessening physiological expenditure, compared this fact with the well-known view that the alimentary needs of the system are less in summer than in winter, in hot climates than in cold. Certain natives of Southern Algeria retain their weight on a diet equal to 1200 calories, while the European mean requirement is 5000 calories. Dr. Miramond concludes therefrom that the increase in the solar rays compensates for the reduction in the ration. It may, however, be held with equal reason that a part of the alimentary ration intended to maintain the animal heat becomes useless when the external temperature causes a reduction in the expenditure of energy.

Rival Antityphoid Vaccines.

The two antityphoid vaccines—that of Professor Chantemesse prepared from heated cultures of Eberth's bacillus, and that of Professor Vincent, of Val-de-Grâce, prepared from cultures of many races of bacilli sterilised by ether—continue to have their results reported before the Académie de Médecine. Following on the reporting of M. Vincent's results obtained in Morocco and in small epidemics in the garrisons of France, M. Chantemesse has made known the results of inoculations with his vaccines in the army and navy. In the army it is shown that 60,851 non-vaccinated men have given 1354 cases with 174 deaths, while out of those vaccinated, who numbered 2644, there has not been a single case and of course no death. In the navy the success has been the same; in the larger number of 4698 inoculated sailors there has not been a single case of typhoid fever, while the 66,254 non-inoculated furnished 580 cases with 40 deaths. By means of this vaccination it has been possible to check at once threatened epidemics in garrisons, in industrial towns, and in an insane asylum. Immunity is acquired only after four successive inoculations. M. Chantemesse asserts that his vaccine has no unfavourable sequelæ and sets up no other disease; thus suggesting that in the case of M. Vincent's vaccine the reaction is very severe and that it runs the risk of giving rise to other diseases in young soldiers recently recruited. The Minister of War has provisionally suspended in the army until May vaccination with M. Vincent's vaccine, in consequence of the poor hygienic condition of the troops during the past winter, through a rainy season, and often in extemporised barracks. M. Vincent has declared that these measures have been adopted in the interests of his vaccine, in order that it should not be accused of producing the troubles that have been noted this winter in a large number of soldiers. Typhoid fever, too, is quite rare in the army at present, and in the solitary focus where it exists, the garrison of Tours, vaccination has been practised.

A New Sanitary League.

A new association has been instituted to make war on flies and other insects, rodents and other animals which transmit infectious diseases. The organising meeting of the society was held at the Ministry of the Interior under the presidency of the Secretary of State. The elected officers are: President, Professor Blanchard; vice-presidents, Dr. Renaut and Professor Vincent; General secretary, M. Richter, who is secretary of the permanent commission on house sanitation.

Legal Responsibility of the Medical Practitioner.

The Seventh Chamber of the Tribunal of Paris has rendered a judgment of great importance to the medical profession. A child having succumbed to an angina, the father sued the doctor for 1500 francs damages for malpractice on the ground that he had not made a bacteriological examination and treated the child with diphtheria antitoxin. After hearing long arguments and much expert evidence the court gave judgment against the plaintiff on the ground that though those methods of diagnosis and treatment were in every way admirable, the law could not impose their use because they were still open questions in the present state of science. Medical responsibility for malpractice was limited to disregard of measures that were practically unanimously enjoined; in other matters the doctor was allowed to base his diagnosis and treatment on such measures as his conscience dictated. On the other hand, a patient who sued before the Paris Tribunal his former doctor for 50,000 francs, on the ground that the doctor had treated him for an affection of the lungs when, as was afterwards proved, he was suffering from an intestinal disease, has been awarded 20,000 francs. The medical syndicates will endeavour to have this judgment set aside, fraught as it is with the gravest possible consequences to the profession; for cases are by no means infrequent in which the diagnosis between an infectious pneumonia and typhoid fever remains for a considerable period doubtful.

Obituary.

Dr. Launois has died suddenly from myocarditis consequent on an illness of three years' duration. He was 55 years of age, and had been physician to the Paris hospitals since 1887, and a *professeur agrégé* at the Faculty of Medicine since 1889. He was physician to the Hôpital Lariboisière. He had published important works on histology and pathological anatomy. As assistant to Professor Mathias Duval he had acted as his substitute during the latter's last years, and on his death it seemed certain that he would succeed to the post; but at that time the Faculty discountenanced the nomination to chairs for the accessory

sciences of medical men who divide their time between laboratory work and medical practice. On this ground Launois was passed by, which occasioned him much disappointment.

March 23rd.

BERLIN.

Alleged Dangers of Salvarsan.

Dr. Dreuw, a police surgeon of Berlin, recently approached the Imperial Health Office with a request that an inquiry should be made as to the dangers of salvarsan, alleging that some hundred deaths had already occurred as a result of the treatment. The Health Office, however, in reply, intimated that he would have to give further and better particulars before they could do anything in the matter. When this became generally known the news caused some uneasiness, and in the Reichstag the Government was asked whether the report of many deaths from salvarsan was true. The official reply was to the effect that as there was no compulsory notification of deaths from salvarsan it was impossible for the Government to say how many deaths had been caused by the treatment, but it was well known that eminent physicians had stated (1) that when undesirable effects had happened they were caused by an injudicious administration of the remedy; and (2) that in a great many cases it had been administered without ill effects and with great advantage to the patients. As undesirable results had been observed in connexion with the administration of other drugs besides salvarsan, and as it was to be purchased in pharmacies only on a written prescription of a medical man, the Government had no reason to interfere. Meanwhile, the modern treatment of syphilis is under discussion in the Berlin Medical Society, where already three meetings have been taken up with that question.

Cremation in Germany.

According to the newspapers cremation is becoming more and more common in Germany. Until recently it was prohibited by law in Prussia and was allowed only in some other States of the empire, especially in the kingdom of Saxony and the free city of Hamburg, to which the bodies of deceased persons had to be brought from elsewhere when cremation was desired. Now that the erection of crematoriums is allowed in every State of Germany, with the exception of Bavaria, the number of cremations is naturally increasing. It is reported that in 1913, when cremation was for the first time allowed in Prussia, more than 1000 bodies were disposed of in this way in Berlin alone. The record, however, is held by the small town of Poessneck, where of 111 deceased adults 74 were cremated. In the 40 larger cities 10,168 persons were cremated, of whom 6117 were men and 4051 were women, the increase compared with the preceding year being 14·6 per cent. In 78 per cent. of the cases a religious service was held at the cremation.

Public Health in Prussia.

The annual report on the public health of Prussia, issued by the Government medical department, has just appeared. As quoted in the *Aerztliche Sachverständigen-Zeitung*, the report states that the number of births has decreased by 2974, as compared with last year's report, this decrease having been constant since the year 1906. The lowest birth-rate occurred in the city of Berlin, and the highest in the district of Münster in Westphalia, the respective numbers being 19·3 and 39·1 per 1000. The number of deaths has decreased by 60,551, and the increase of the general population was more than half a million. The general death-rate was 15·49 per 1000, the lowest for a subdivision of the kingdom being 13·06 per 1000 in Berlin, and the highest being 18·75 per 1000 in the Eastern provinces. Of 1000 infants there died on an average 164·3, but in the western suburbs of Berlin and in the cities of Kassel and Wiesbaden the proportion was less than 100 per 1000, while in the six Eastern provinces it was more than 200 per 1000. Infantile mortality had a direct connexion with the comparative wealth or poverty of the population as shown by the above numbers, Wiesbaden and Kassel being cities with relatively few inhabitants of the working class, but a large well-to-do population. Of all the deaths in Prussia general weakness due to old age was the cause in 11·2 per cent.; diseases of the gastro-intestinal organs in 10·02 per cent.; diseases of the organs of circulation in 9·97 per cent.; tuberculosis in 9·4 per cent.; pneumonia in 8·7 per cent.; and malignant growths in 5·2 per cent. There were 16,719 deaths from accidents; 8723 deaths were due to suicide and 804 to murder or manslaughter. Of the suicides, 24 per cent. were ascribed to mental diseases, 9·8 per cent. to bodily diseases and suffering, and 7·3 per cent. to over-indulgence in alcoholic liquors. The murders and homicides by revolver shooting have increased from 15·9 to 19·4 per cent. of deaths from violence, a fact which has been discussed lately in the daily press, and numerous cases of brawls in which revolvers are used in the streets of the great cities have led to the proposal that the sale of revolvers, especially to juveniles, should be placed under legal restrictions. The year 1912 passed without epidemics of large extent, so that the mortality from infectious diseases was smaller than in any preceding year, with a remarkable decrease in the number of deaths from diphtheria, tuberculosis, scarlet fever, and influenza. The disinfectors, and especially the district nurses, have done good work in the reduction of infectious diseases, especially by instructing the population concerning prophylactic measures. Small-pox was notified in 170 cases, nearly all having come from Russia, of whom 11·5 per cent. died. Of the vaccinations 97·3 per cent. and of the revaccinations 84·3 per cent. were successful. The death-rate from tuberculosis was the lowest on record, being 14·6 per 10,000, as compared with 28·35 per 10,000 in 1890. There were 11,353 cases of enteric fever in 1912, whilst in 1911 owing to the hot summer the number of enteric fever patients was 17,381. The death-rate from enteric fever was 13·9 of cases notified, as compared with 14·1 in 1911 and 17·8 in 1903. The mortality from cancer has been increasing since 1900. On an average the death-rate from cancer per 10,000 of the population was 6·29 during the period from 1900 to 1903, 7·10 from 1904 to 1907 and 7·82 from 1908 to 1912; the classification according to sex showed that 54 per cent. of the deaths from cancer occurred in women. Alcoholism caused 936 deaths, and 6882 sufferers from the effects of alcohol were attended in lunatic asylums. The report, which is very detailed, gives, moreover, a description of the work of the medical officers of health concerning the supervision of dwellings, of drinking-water, of schools, of the sale of food, and also of the condition of the hospitals and sanatoriums in Prussia.

March 23rd.

CONSTANTINOPLE.

Municipal Hospitals.

THE energetic Prefect of the city, Dr. Djemil Pasha, is not only enlarging the streets and embellishing the quarters of Stambul, Pera, and Scutari, but he is also doing his best to improve the sanitary and hygienic conditions of our metropolis. The municipal authorities did well to elect for this supervising office a capable and travelled physician who has studied Western ways and is in touch with modern ideas. His chief plan for the present is to erect in Constantinople a number of new municipal hospitals worthy of the capital, and to enlarge and improve those already in existence. He has prepared a very extensive report on the matter, and hopes to realise his project in the course of five years. As a beginning Djerrah-Pasha Hospital in Stambul, which has 200 beds, will be increased to 500, and the female Hasseki Hospital, with 250 beds, to 600. In each of these institutions there will also be provided 100 beds in a separate pavilion for infectious cases. In the quarter of Chishli, above Pera, there will be constructed a great hospital with every modern requisite. Scutari on the Asiatic side and Emirghian on the European will get a new hospital, each with 500 beds, of which 200 will be for women, as well as special pavilions for contagious diseases. Also a number of municipal dispensaries will be erected on the Princes' Islands, in the Sea of Marmora, at Makrikeuy, Stambul, and at Beicos, on the Upper Bosphorus. The children's hospital at Chishli, of Abdul Hamid's fame, will be greatly enlarged, having added also 100 special beds for newly born infants. I have indicated that Dr. Djemil Pasha has undertaken a difficult task, and the financial question presents formidable difficulties, as Turkey is exceedingly poor at present.

Mme. Van der Does de Willebois's Hospital.

The wife of the Dutch Minister, Mme. Van der Does de Willebois, has completely reorganised the hospital for poor children at Chishli. She is the honorary president of it and gives much of her time and attention to the admirable work of Christian charity done by it under her name. She finds in her two daughters, as well as in Mrs. d'Ankerswärd and Baroness Moncheur, wives of the Swedish and Belgian Ministers, and Dr. Violi, an Italian physician and founder of the institution, excellent supporters. Poor children are received into this hospital from their birth to about 15 years of age and from every part of the country absolutely free of charge and regardless of nationality and religion. For this reason I bring before the readers of THE LANCET Mme. de Willebois's appeals for contributions, which may be sent to her at the Dutch Legation of Constantinople.

The International Sanitary Institution at Jerusalem.

This institution is now in full working order, and the work has been inaugurated by a large meeting attended by all the chief Ottoman officials, representatives of the various nationalities and religions, heads of institutions and schools, and medical men. The president of the Sanitary Institution is Dr. Mühlens, well known for his various and numerous investigations into malaria and hydrophobia. The American philanthropist, Mr. Nathan Strauss, who perished in the *Titanic* disaster, had very liberally endowed the institution, and the German Government is now lending warm support. Lately a station has been erected for investigations of infectious and contagious diseases generally, and a station for extensive work in tuberculosis investigation. It is considered that Jerusalem is in many respects a suitable centre for such kind of scientific research. A special committee has been formed to carry on and develop the work of the institution, and the Ottoman Government is also prepared to take a practical interest in the scheme.

March 18th.

UNITED STATES OF AMERICA.

The Treatment of Cancer.

THE Commission on the Treatment of Cancer appointed by Harvard University Medical School, which has for over a year been investigating the results of radium-therapy in malignant growths, states in its recently issued report that in certain limited cases radium treatment seems to be curative, and, even when not so, relief of pain, hæmorrhage, discharge, and other local conditions may ensue. Early and complete surgical removal still remains the most satisfactory treatment. The best results of radium-therapy occur in certain skin diseases and localised cancers, and as a symptomatic therapy in non-operable cases. The variation in different types of cancer may account for many of the favourable results attributed to various procedures. The collection and recording of ample and accurate clinical data in a form suitable for critical analysis is necessary, and it is to this end and to the devising of new and more effective methods of administration that the Commission is devoting its energies. This restrained judgment is the more welcome as there has been much enthusiastic discussion in the lay press of late on the radium treatment of cancer, in which a Philadelphia physician, who is known to be a radium enthusiast, has given vent to expressions that suggest the discovery in it of a cancer specific. This exuberance was combated by Dr. W. Seaton Russell, chief of the X ray department of the New York Skin and Cancer Hospital, in the *Scientific American* of Jan. 17th, as well as by Dr. W. Seaman Bainbridge, chief of the cancer research department of the same hospital, and others; and it is to be hoped that the report of the Commission will check the irresponsible optimism that not only dooms so many poor wretches to a cruel disappointment, but often causes them to throw away such chances as they might have obtained from early surgical removal.

The Licensing of Midwives in New York State.

The committee for the prevention of blindness in New York State has announced that it will place before the public health council of the State at once proposals for the regulation, examination, and inspection of midwives. It is stated by the committee that hundreds of deaths of babies and mothers, and thousands of cases of blindness, are caused annually through the ignorance and carelessness of midwives. 40 per cent. of all births in the State are attended by midwives, and 10 per cent. of the deaths of all children under 1 year of age occur during the first 24 hours after birth. At least 1 out of every 22 of these deaths is the result of injuries received at birth.

Proposed Tax on Wood Alcohol.

Cases of blindness and death from the careless use of wood alcohol occur so constantly in the United States that the secretary of the American

Industrial Alcohol Association has suggested placing wood alcohol under rigid supervision by the Internal Revenue, subject to a tax of from 2 to 10 cents per gallon, according to the degree of refinement. Partially refined wood alcohol carries in its obnoxious odour a warning against its use, but completely refined and deodorised wood alcohol (methyl) can be distinguished from pure grain alcohol (ethyl) only by expert tests. It is suggested that the law should also provide that wood alcohol must be labelled "Poison."

Pasteurisation of Milk to be Compulsory in New York City.

The recently appointed Commissioner of Public Health for New York City, Dr. Goldwater, has determined to enforce the order of the New York Board of Health adopted some time ago with regard to the pasteurisation of all grades of milk except the certified and guaranteed.

Restriction of Immigration.

Much dissatisfaction has long existed with regard to the manner in which unfit immigrants are allowed to enter the United States. A large proportion of inmates of insane asylums, and especially of those in New York State, have been found to be of alien birth. It is now proposed to add further amendments to the pending Immigration Bill, and several medical men and representatives of civic organisations have been summoned to appear before the committee. It is suggested that not only the insane but persons of "constitutional psychopathic inferiority" and chronic alcoholics shall be excluded. The period in which an alien who becomes a public charge may be deported is also to be extended from three to five years.

Scarlet Fever in New Jersey.

Recently there has been much scarlet fever in New Jersey, and an epidemic is now raging in the town of Florence. Twelve persons have died from it, and schools, churches, moving pictures exhibitions, and all places of public gathering have been closed. The epidemic is of a virulent type.

Small-pox.

Since Feb. 25th three districts of Philadelphia have been quarantined against the spread of small-pox, and more than 4000 persons have been vaccinated. The disease is believed to have been imported from Baltimore. The town of Niagara Falls has long been strongly antivaccinationist, and in consequence is not infrequently visited by outbreaks of small-pox. There are now 105 cases of small-pox there; 39 houses there are under quarantine, and 22 patients are being treated in the quarantine hospital. Cases of small-pox were reported from nine towns in the western part of New York State, all of which were traced directly to Niagara Falls. The order of Dr. Hermann Biggs, the new Health Commissioner of New York State, that the population of Niagara Falls be vaccinated has aroused great opposition.

Death of Dr. William Kelly Simpson.

Dr. William Kelly Simpson, professor of laryngology in the College of Physicians and Surgeons, Columbia University, New York, died recently. Dr. Simpson was born in Hudson, New York, in 1855. He graduated in Arts at Cornell University in 1876 and in medicine at the College of Physicians and Surgeons of New York in 1880. He became assistant professor of laryngology in 1892 and professor in 1904. He held many hospital appointments and was a member of many medical societies. Dr. Simpson was eminently successful both in practice and as a teacher, and was a man of great charm.

March 16th.

SOUTH AFRICA.

Death of a Well-known Rand Practitioner.

THE death occurred recently in Johannesburg of Dr. Johnstone Brown, who came out to South Africa in 1896 and commenced practice at Ficksburg in the Orange Free State. On the outbreak of the Boer war he was taken prisoner by General de Wet, but escaped. He then joined the British forces and was present at several engagements, notably Wepener, where he rendered splendid services to the wounded of both sides. At the conclusion of the war he commenced practice in Johannesburg, and soon acquired an extensive connexion. At the time of his death he was senior physician to the Johannesburg Hospital and medical adviser to several friendly societies. He was also honorary treasurer of the Witwatersrand Branch of the British Medical Association. He will be greatly missed, not only in professional circles, where he was beloved, but by a host of patients and friends.

Spread of Syphilis in South Africa.

Syphilis appears of late to have been spreading rapidly amongst the native races of South Africa. In the Transvaal and the northern districts of the Cape most native races are thoroughly infected; also in the Transkeian territories, though to a less extent. In Natal the disease is beginning to play havoc with the Zulus—perhaps the finest native race in South Africa. District surgeons are permitted to attend native patients at Government expense, but no control is exercised to see that they are attended or are kept under treatment when once placed on the register. The fees paid in the different provinces are small. Instances of European children having become infected from native nurse girls are of not infrequent occurrence, and adequate measures for the control of the disease are imperatively called for. A deputation from the United Municipal Association of South Africa waited upon the Prime Minister a few months ago, but got no satisfaction beyond the stereotyped reply that the matter would receive the consideration of the Government. It is to be hoped that steady pressure will be kept on the Government to induce it to appoint a Commission to deal with this question.

The Great Strike.

The railway strike has come and gone. It had been expected for many months, and when it came and the Federation of Trades proclaimed simultaneously a general strike of all trades the action of the Government in calling out the active citizen force and in the northern provinces the burghers, and in proclaiming martial law in those provinces and in Natal, foredoomed it to failure. The Medical Department of the Defence Force played its part in the recent mobilisation, but in the event of casualties it would assuredly have broken down, and the Government would have had to rely upon the civil organisations and hospitals. Fortunately, there were no casualties worth speaking of and the Government will doubtless realise that, however efficient the Defence Force is as a whole, the medical department needs strengthening. The need for the appointment of a suitable officer as Director of Medical Services should be apparent to

all. The work cannot be done efficiently by a non-professional officer even when the latter is advised by such an efficient professional officer as the present staff officer for medical services, Major Stock. So far as the intentions of the Government have been announced, it is only proposed to ask Parliament to pass an Indemnity Bill and necessary financial measures during the present session. It is expected, however, that the medical members will insist upon the conditions on the mines being brought under review, and particularly the working of the Miners' Phthisis Compensation Act, which has been responsible for much criticism. Also it would seem likely that an effort will be made to get the Government to establish a definite Medical Department responsible for health conditions on the mines, and also for the medical treatment of mine natives. The present system of part-time medical officers under the control of, and paid by, the mining houses themselves has failed, and it is felt that the State should step in without further delay and establish a sound organisation to take control and enable the workers on the mines to feel that Government is rendering their calling less dangerous and striving to reduce the present appalling death-rate.

Rhodesian Nursing Service.

In view of the shortage of nurses in South Africa the Government of Southern Rhodesia has organised a scheme which it is hoped will lead to its hospitals being supplied with a sufficient number of probationers and trained nurses. The service is managed by a chief matron who is stationed at Salisbury under the general supervision of the Medical Director. The chief feature in the service is the terms upon which probationers are engaged. They receive £35 for the first year, £40 for the second year, and £45 per annum thereafter. This liberal remuneration is, of course, due to the fact that Rhodesia still has to recruit most of its probationers from other parts of South Africa. Trained nurses receive £60 per annum, which is less than they receive at many hospitals in the Union, but as against this is the fact that after ten years' service—five of which have to be passed as a matron—nurses in the service are eligible to join the fixed establishment and receive a pension on retiring, which varies according to the salary that they have previously been drawing.

Feb. 4th.

Obituary.

FRANCIS HENRY HAWKINS, M.D., C.M. EDIN., M.R.C.P. LOND.,

LATE PHYSICIAN TO THE ROYAL BERKSHIRE HOSPITAL.

Dr. Francis Hawkins, of Reading, died suddenly at his house on Feb. 26th. He had a serious illness some years ago, and his health since then had been impaired, but the news of his death came as a surprise.

Francis Henry Hawkins was the third son of the late Henry John Hawkins. He received his medical education at the University of Edinburgh, at University College, London, and at Vienna and Berlin. He obtained the M.B. and C.M. degrees at Edinburgh in 1882 and the M.D. degree in 1899, and in the following year took the Membership of the Royal College of Physicians of London. His early appointments included those of demonstrator of physiology in the medical school of Charing Cross Hospital, resident physician to the Edinburgh Royal Infirmary, and house physician to the Brompton Hospital. Then for a time he was physician to the North London Hospital for Consumption and physician to out-patients at the Hospital for Epilepsy and Paralysis.

Going to Reading as a consulting physician, Dr. Hawkins was appointed about 20 years ago to the medical staff of the Royal Berkshire Hospital, and only resigned his post as physician last December. In addition to his hospital work and private practice he was examining physician to the National Hospital for Consumption, Ventnor, and a lieutenant-colonel in the Royal Army Medical Corps (Territorial Force), and was a medical referee under the Workmen's Compensation Act. He had also been president of the Windsor Medical Society and was a prominent Freemason. He made a number of communications upon professional subjects to medical journals, including a paper on ascites printed in the Proceedings of the Royal Society of Medicine in 1908. Soon after settling in practice at Reading Dr. Hawkins married Louisa Maud, daughter of the late Colonel Alexander Maclean, of Coll. He leaves five children, the eldest a boy of 17. The funeral took place at Welford, near Newbury, on March 3rd, the first part of the service being held at St. Giles's Church, Reading, where Dr. Hawkins had long been a member of the congregation.

NATIONAL SOCIETY OF DAY NURSERIES.—This society was founded in 1906 to promote organised efforts to found day nurseries for the health and protection of young children, to help conduct them on model lines, and to train nurses. The society aims at providing every crowded factory district of Great Britain with a public day nursery, where the children of mothers who are compelled to go out to work may be carefully nurtured, at a small charge per child, amid cheerful and happy surroundings, secure from the dangers of the street and injury. Abroad official grants are given to such nurseries both by the State and other public bodies, but in Britain the crèches or public nurseries are still entirely dependent upon voluntary contributions. The society's secretary and offices are at 4, Sydney-terrace, Fulham-road, London, S.W.

CENTRAL MIDWIVES BOARD.—A meeting of the Central Midwives Board was held at Caxton House, Westminster, on March 19th, with Sir Francis H. Champneys in the chair. A letter was considered from the county medical officer of health for Herefordshire calling the attention of the Board to the attitude of the magistrates of the Ross Petty Sessional Division in dealing with a case where an uncertified woman was prosecuted by the county council for an infringement of Section 1 (2) of the Midwives Act, 1902. The Board directed that the matter be referred to the Privy Council and that the chairman be asked to communicate with the clerk of the Council on the subject. A letter was considered from the clerk of the county council of Hampshire inquiring whether, with a view to obtaining notification of stillbirths in all cases, the rules could be so amended as to provide that the bodies of stillborn children should not be disposed of without a medical certificate following upon an examination of the body. The Board decided that the matter be considered at the next revision of the rules. A letter was also considered from the county medical officer of health for Carmarthenshire urging the desirability of granting further facilities for the training of midwives within the county. The Board directed that the county medical officer of health for Carmarthenshire be informed that the Board considers that the standard of training requires raising at the earliest opportunity, and is not prepared to consider any proposal for lowering that standard.

Correspondence.

"Audi alteram partem."

THE DEPENDENCE OF ARTHROPATHY ON NERVE INFLUENCE.

To the Editor of THE LANCET.

SIR,—In THE LANCET of March 7th (p. 699) you have again an interesting annotation referring to the dependence of arthropathy on nerve influence, and, as you remark, "the case reported is an excellent example of the localisation of an infection to an area of which the nerves are injured." May I be allowed to amplify the illustration.

In 1864 Dr. Weir Mitchell, Dr. Moorhouse, and Dr. Keen, in their work on "Gunshot Wounds and other Injuries of Nerves," called attention to the effect of nerve injuries on the nutrition of the joints. The symptom occurs within a few days after the injury of the nerve.

It consists essentially in a painful swelling of the joints, which may attack any or all the articulations of a member. It is distinct from the early swelling due to the inflammation about the wound itself, although it may be masked by it for a time; nor is it merely a part of the general œdema which is a common consequence of wounds. It is more than these—more important, more persistent. Once fully established it keeps the joints stiff and sore for weeks or months. When the acute stage has departed the tissues about the articulations become hard, and partial ankylosis results. ..... Were we asked to state in what essential respect these lesions differ from subacute rheumatic disease of the same parts we should certainly be at some loss to discern a difference.

In 1872 Dr. Weir Mitchell, in his work "On Injuries to Nerves," p. 168, describes the arthritic changes which may follow dislocations, ball wounds, contusions, or even compressions of the nerves:—

We may have one articulation—and if only one, a large one—involved, or perhaps all the joints of a finger, or every joint in the hand or of the entire limb may suffer. The swelling is never very great, the redness usually slight, and the tenderness on motion exquisite. This condition of things remains, with little change, during weeks or months and then slowly declines, leaving the joints stiff, enlarged, and somewhat sensitive, especially as to movement. A small proportion of such cases find ready relief, but in many of them the resultant ankylosis proves utterly unconquerable. ..... It is quite clear that injuries of the spine, diseases of this organ and of the brain, and wounds, or any form of lesions of nerves, are capable of developing in the joints inflammatory conditions usually subacute and which so precisely resemble rheumatic arthritis in their symptoms and results that no clinical skill can discriminate between them.

In THE LANCET, 1846, Vol. I., p. 278, Dr. Scott Alison, and in THE LANCET of July 13th, 1861, Dr. Brown-Séquard called attention to the arthropathies of hemiplegic patients

limited to the paralysed limbs and mostly occupying the upper extremities. They supervene, especially after circumscribed cerebral ramollissement, and more rarely as a consequence of intracephalic hæmorrhage. They usually form 15 days or a month after the attack of apoplexy—that is to say, at the moment when the *tardy contracture* that lays hold on the paralysed members appears, but they may also show themselves at a later epoch. The tumefaction, redness, and pain of the joints are sometimes marked enough to recall the corresponding phenomena of acute articular rheumatism.

Professor Charcot,[1] in referring to the views of Scott Alison and Brown-Séquard, says:—

It is characteristic of the affection to remain confined to the paralysed limbs and not to extend to the sound members. ..... This form of arthritis seems to show itself chiefly in cases where the hemiplegia is consecutive on encephalitis or on brain softening. ..... The arthritis supervenes in hemiplegic patients as a more or less direct consequence of the cerebral lesion, quite apart from all influence of gout, rheumatism, or other diathetic condition.

Again, Professor Charcot has placed on record two most instructive cases of locomotor ataxia complicated with arthropathy which I may be allowed to quote. He says:—

It is not very rare to find the spinal grey matter affected in locomotor ataxia; but the lesion is then generally found in the posterior cornua. Now it was quite different in two cases of locomotor ataxia complicated with arthropathy, in which a careful examination of the cord had been made; the anterior cornua were, in both cases, remarkably wasted and deformed, and a certain number of the great nerve cells, those of the external group especially, had decreased in size or even disappeared altogether without leaving any vestiges. The alteration, besides, showed itself exclusively in the anterior cornua, corresponding to the side on which the articular lesion was situated. It affected the cervical region in the first case, where the arthropathy occupied the shoulder; it was observed a little above the lumbar region in the second case, which presented an example of arthropathy of the knee. Above and below these points the grey matter of the anterior cornua appeared to be exempt from alteration. From what precedes I hope to have made it appear at least highly probable that the inflammatory process, first developed in the posterior columns, by gradually extending to certain regions of the anterior cornua of the grey matter was able to occasion the development of the articular affection in our two patients. If the results obtained in these two case are confirmed by new observations we should be naturally led to admit that arthritic affections connected with myelitis, and those observed to follow on cerebral softening, are likewise due to the invasion of the same regions of the grey matter of the spinal cord. In cases of brain softening the descending sclerosis of one of the lateral columns of the spinal cord might be considered as the starting point of the diffusion of inflammatory work.

In an article in *Brain*, vol. xxv. (1902), entitled, "Some Observations on Primary Degeneration of the Motor Tract," by Dr. F. W. Mott, F.R.S., and Mr. A. F. Tredgold, they describe a case of chronic rheumatoid arthritis with muscular atrophy with pronounced deformities of all the limb joints, &c., and give the results of the microscopical examination of the spinal cord as follows:—

Grey matter.—In the cervical enlargement there are very important alterations in the large cells of the anterior horns. There are fewer such cells present than in the normal cord in this region, and a large number of them are seen to be undergoing a chronic degenerative change with the deposition of a large amount of pigment. In the dorsal segments examined there is not anything like the same amount of change in the anterior horn cells; here and there degenerated cells occur, but they are comparatively rare, whereas in the cervical and lumbar parts of the cord the reverse is the case, and healthy cells are in a decided minority. In the lumbo-sacral portion of the cord exactly similar changes occur as in the cervical enlargement—that is, many cells in various stages of degeneration are scattered throughout all the cell nests. In the cervical and lumbar enlargements there is also very considerable decrease in the fibres composing the network of the anterior horns, especially in the central portion. This change does not occur in the dorsal region.

These observations, I submit, confirm the results arrived at by Professor Charcot, and therefore support the view I have advanced as to the pathology of rheumatoid arthritis and the plan of treatment which I have based thereon.

I am, Sir, yours faithfully,

P. W. LATHAM.

St. James' Court, Buckingham Gate, S.W., March 17th, 1914.

[1] Lectures on Diseases of the Nervous System, New Sydenham Society, 1877, pp. 92-95. Translated by Dr. Sigerson.

THE DUCTLESS GLANDS.

To the Editor of THE LANCET.

SIR,—In a letter published in your issue of Feb. 7th (p. 421) Dr. Blair Bell takes exception to Professor Swale Vincent's statement that "the facts at our disposal have, so far, not been sufficient to warrant us in drawing any very definite conclusions as to the interrelations between the various organs forming an internal secretion." He regards this statement as "misleading if not absolutely wrong." I venture to think, however, that Professor Vincent's statement is fully justified. In his Arris and Gale Lectures (1913) Dr. Blair Bell stated that after removal of the ovaries in rodents there is "great distension of the vesicles of the thyroid, which are filled with colloid," and that "there is a considerable increase in functional activity of the thyroid of rodents" after this operation. Before this conclusion can be accepted, however, Dr. Blair Bell must inform us what are the normal types of thyroid gland in the class of animal he has experimented upon, for the locality and season in which his experiments were carried out, and for the conditions of life and food prevailing in this locality. This information can only be arrived at by the histological examination of the thyroids of large numbers of animals.

In rats, for example, the thyroid gland varies in structural characters with locality, with altitude, with season, with food, as well as with the hygienic conditions incidental to confinement in cages. I have lately had occasion to study the histological appearances of the thyroid glands of about 450 rats; as a result of this examination I find that the thyroid may show very variable characters, within normal limits, in animals living under precisely similar conditions of life. In the plains of India, for example, 50 per cent. of the animals examined had glands of the "resting type"—that is to say, glands whose vesicles were distended with colloid—while the remainder were either in a state of active secretion (38 per cent.), and holding very little colloid, or in a state of actual hyperplasia (12 per cent.). The number of rabbits' and guinea-pigs' thyroids which I have examined is not so large, but with regard to these also I am in a position to state that they often show very different histological characters under the same conditions of life, especially with respect to the amount of colloid they may contain. If, therefore, the operation of oöphorectomy is performed in a small number of animals, it is more than probable that changes will be attributed to the removal of the ovaries, which may have nothing whatever to do with the operation. Interesting and suggestive as Dr. Blair Bell's results are, the number of his experiments is, in my opinion, too few to justify the conclusion he has drawn as to the effect of oöphorectomy on the thyroid gland.

If distension of the thyroid vesicles with colloid is shown to be an invariable result of removal or loss of function of the ovaries, it will then be necessary to consider the interpretation which can be placed upon this result.

For my own part, I am convinced that there is an interrelation between these organs and that Dr. Blair Bell is to be congratulated in directing attention to it, but the evidence on which this opinion is based is clinical and not experimental.

I am, Sir, yours faithfully,

Kasauli, India, Feb. 24th, 1914. ROBERT MCCARRISON.

COOKING AND VITAMINES.

To the Editor of THE LANCET.

SIR,—I do not think the public need be alarmed by the letter which appeared in your issue of March 21st over the signature "Civis," nor by your annotation on cooking which was prompted by his remarks.

At present the existence of "vitamines" in foods is very largely a matter of inference; the inference is doubtless correct, but as research proceeds it may be necessary to modify the immature views and guesses at present in the air as to the way in which these substances influence growth and nutrition. In order to obtain them it is necessary to work with hundredweights of the raw material, and even then the total yield of the crude product amounts only to a few centigrammes. From this minute quantity certain substances of problematical chemical composition have been isolated, and Funk's view that these are pyridine derivatives and are the long sought vitamines must be accepted with caution; the more these materials are purified the less appears to be their physiological activity in combating neuritic conditions; it is therefore exceedingly doubtful whether workers have as yet been successful in isolating the really active substance or substances.

The statement has been made by those who have taken up the subject that very prolonged heating to high temperatures lessens the activity of these essential constituents of food, but in ordinary cooking the injury to them does not appear to be pronounced. The vitamines, however, are probably numerous; the one, for instance, which is anti-neuritic, and is a type of those serviceable in the cure of "insufficiency diseases," is very resistant to heat, and boiling even for 24 hours with strong acid does not destroy it. The one which appears to be important for growth in young animals, and of which that in milk is typical, is more thermolabile, and although prolonged boiling lessens its efficiency it is not affected by the lower temperatures used in pasteurisation.

But, really, physiological experiment was hardly necessary in such a case as this; it was known beforehand that whole rice will not produce beriberi in the same way that polished rice does, and no one has ever suggested that the rice-eating nations of the East take their rice raw; and, again, children have grown and do grow successfully on pasteurised milk.

There is a tendency, which is not confined merely to superficial readers of physiological literature, to draw wide-sweeping conclusions from isolated cases and from scanty and confessedly imperfect physiological experiments. A much safer guide is the accumulated experience of the past centuries of mankind, which is really a physiological experiment on a vast scale. The recognition of familiar facts and the exercise of common sense are just as important in scientific argument as in everyday life.

The very term vitamine is itself a source of fallacy, especially if the word vital is used as its adjectival form. Vital may mean one of two things: it may be used in its literal sense as equivalent to living, or it may be used in a semi-figurative sense and mean necessary or essential. When we say that vitamines are vital constituents of diet we ought to mean that they are indispensable, and not imply that the vitamines possess the characters connoted by the word life. Life is

obviously absent in cooked food; no wonder, then, that the idea has got abroad that cooked food cannot contain vitamines, just because of the confusion that has arisen from one word being used in two quite different senses.

I am, Sir, yours faithfully,

W. D. HALLIBURTON.

King's College, London, March 21st, 1914.

ACUTE SUPPURATIVE OTITIS MEDIA IN SCARLET FEVER.

To the Editor of THE LANCET.

SIR,—The question raised by Dr. J. Mackern in your issue of March 21st—viz., how long an otorrhœa arising in connexion with scarlet fever is capable of retaining its infectivity—is one of considerable importance. Unfortunately, it is one to which it is impossible to reply categorically. Since we are still in ignorance as to the identity, or even the nature, of the infective agent in scarlet fever, even the most careful examination of the ear discharge must needs fail completely to yield any direct evidence as to its infectivity

In coming to a decision, therefore, as to when it is safe to release from isolation a person who has recently had scarlet fever and whose ear is still discharging, we have, perforce, to fall back upon inferences based partly on the relationship observed to exist between otorrhœas of varying degrees of persistence and their apparent capacity to infect, and partly on the results obtained by following out our beliefs in practice. That the infection in scarlet fever attaches especially to the mucous membranes and their discharges rather than to the desquamating cuticle is now being generally recognised, traditional beliefs notwithstanding; but that a nasal discharge, particularly if of a purulent character, is far more potent for harm than a discharge from the middle ear is not, perhaps, so widely recognised.

My own experience does not lead me to regard with much apprehension the presence of an otorrhœa in a patient who has undergone the usual period of isolation, in the absence of any nasal discharge and of any marked relaxation of the fauces. The relative importance of a nasal discharge has been clearly demonstrated by the investigations into the origin of "return cases" of scarlet fever and diphtheria which were carried out some years ago on behalf of the Metropolitan Asylums Board. Dr. A. G. R. Cameron showed that, as regards scarlet fever, amongst the "primary infecting cases," 648 in number, which fell within the scope of his inquiry, rhinorrhœa was present in 52·3 per cent., whereas otorrhœa was present in but 8·3 per cent. In a good many of the latter a morbid condition of the nasal mucosa existed as well and furnished a more likely source of infection. That an otorrhœa arising in connexion with scarlet fever is infectious for a time is more than probable, but when it ceases to become so is impossible to ascertain, owing to our ignorance of the specific causative agent. Any dogmatic assertion on the point should be mistrusted. The period of infectivity, however, doubtless varies in different cases.

Although formerly insisting on a 12-weeks' isolation, a close acquaintance with scarlet fever, extending over more than a quarter of a century, has convinced me that, if the faucial and nasal mucosa are healthy, a patient may be released at the expiration of eight weeks with comparative safety. Nearer than this one cannot go in view of those occasional cases of scarlet fever in which the patient's infectivity is unduly protracted without there being apparent any sign by which its presence might be suspected. So long as an otorrhœa persists the use of an antiseptic lotion and the careful disposal of anything liable to be soiled by the discharge are common-sense precautions.

I am, Sir, yours faithfully,

F. FOORD CAIGER.

South-Western Hospital, Stockwell, S. W., March 23rd, 1914.

SYPHILIS AND "MENTAL DEFICIENCY."

To the Editor of THE LANCET.

SIR,—We have read with much interest the letter of Sir H. Bryan Donkin in your issue of March 14th on syphilis and mental deficiency. All your readers must heartily agree with him that the greatest caution requires to be exercised in the observation of facts and in the method of interpreting them before making public any doctrine or implication that syphilis is a predominant cause of mental defect generally. Sir Bryan Donkin then goes on to say that the conclusion which we expressed in our paper,[1] based on the examination of 205 cases, that syphilis is the causative factor in a very considerable percentage of cases of mental deficiency of whatever grade of severity as it is present in over 50 per cent., is "wholly unwarranted by the facts adduced." He appears to base this criticism of our results largely on his statement that there has been hitherto, so far as he is aware, "no attempt made to ascertain the frequency of positive reactions to the test in the blood of large numbers of individuals of similar conditions to those composing the special groups under investigation, but to whom 'mental defect' cannot be attributed." At the time of writing our paper we were actually in possession of such evidence regarding the percentage of positively reacting children of similar age and social state, but without mental defect, which had been obtained in the course of the examination of over 1000 children by one of us (H. F. W.); but in view of the very high association of syphilis with mental deficiency and epilepsy we did not imagine that the figures could fail to carry conviction to any one. A summary of these control observations of one of us (H. F. W.) was subsequently published in Dr. Carl H. Browning's paper,[2] but it appears to have escaped Sir Bryan Donkin's notice; the results obtained were that out of 331 mentally normal children belonging to the same age and class groups, who were attending the dispensary of the Royal Hospital for Sick Children and the Central Dispensary, Glasgow, and who were not suffering from frankly syphilitic conditions, 10 per cent. reacted positively in the Wassermann test. An entirely independent observer, Dr. Elliot, who recently reported to the Glasgow Medico-Chirurgical Society the results of the examination of a similar group of 127 children in the measles and whooping-cough wards of Ruchill Fever Hospital, obtained positive reactions in 8·6 per cent. of cases. These results correspond well with the figure (8·7 per cent. of positives) in a small series of apparently normal school children, published by one of us (K. F.). By way of contrast and as demonstrating the reliability of the Wassermann test, it may be mentioned that in a group of 433 cases in which syphilis was

[1] Journal of Mental Science, October, 1913.
[2] Brit. Med. Jour., Jan. 10th, 1914.

excluded as far as possible by clinical methods only 13 cases reacted positively, and of these 6 came from one family. Our results in 205 cases of mental deficiency and epilepsy have thus been controlled by the observations of Dr. Elliot and of ourselves in a series of 481 children belonging to the same age and class groups, from which it appears that among mental defective and epileptic children in Glasgow the incidence of syphilis is proved to be at least five or six times as great as among children of average intelligence. In view of these figures we find it difficult to understand how our conclusion regarding the rôle of syphilis in mental deficiency and epilepsy can be avoided. With regard to the observations of workers in foreign countries we have no comment to offer; we would only emphasise the fact that *all our cases were children*, since Dean has drawn attention to the absence of positive reaction in cases of congenital syphilis after 16 years of age. We would also draw attention to the fact, however, that another worker here, Chislett, at Woodilee Asylum, Lenzie, obtained 35 per cent. of positive reactions in his series of 26 cases belonging to this group.[3] Thus the sum total of results in this country bears out the statement of Browning and McKenzie that "syphilis plays a larger part in congenital mental affections than is generally supposed. ..... If medical science is prepared to urge prophylactic measures for the prevention of such diseases, it is well that it should be definitely established and recognised that a considerable proportion of cases of congenital mental deficiency are of infective origin and that the infection is syphilis."

We are, Sir, yours faithfully,

K. FRASER, M.D., B.Sc., D.P.H.
H. FERGUSON WATSON, M.D., L.R.C.P.

March 18th, 1914.

CHANGES IN THE BLOOD IN SURGICAL SHOCK.

To the Editor of THE LANCET.

SIR,—In his very interesting Hunterian lecture published in THE LANCET of March 14th Mr. A. Rendle Short repeatedly mentions the difficulty of understanding how a fall of blood pressure can be associated with a normal heart action and contracted peripheral arteries. He very kindly credits me with having long maintained the view that the arteries are contracted in shock, which view he accepts at least in so far as the peripheral arteries are concerned. He therefore rejects Crile's theory of vaso-motor paralysis, and he rejects also the "acapnia" theory, the "oligæmia" theory, and the "suprarenal exhaustion" theory. By a process of exclusion he is driven "to return to the central nervous system" to seek "an explanation of a falling blood pressure with a normal heart and vaso-motor centre and contracted peripheral arteries."

I do not propose to make any comment upon the explanation which Mr. Short suggests, but I should like to be allowed to endeavour to persuade him to reconsider his conclusion regarding oligæmia. He says that "if the total blood volume were reduced (*oligæmia* = scanty blood) the blood pressure would fall and yet the heart and vaso-motor centre might act well and the arteries be constricted." He, however, rejects the view that the total blood volume is reduced, because he did not find that the specific gravity of the blood showed any marked rise in certain cases of shock which he studied, and in one patient, to whom a pint of saline and glucose had been given, there was a fall of the specific gravity of the blood. Sherrington and Copeman came to an opposite conclusion—namely, that the specific gravity of the blood rises in the state of shock, and, as Mr. Short says, I accepted their statement because it so clearly harmonises with clinical facts. Apart from variations in the specific gravity of the blood, I would point out that in well-marked shock the peritoneum is as pale and bloodless as the skin, an assertion fully corroborated by Crile. I cannot agree with Mr. Short's statement that the abdominal veins are dilated in shock. In fact, a chief characteristic of shock is the bloodlessness of the tissues everywhere, and therefore it seems to me impossible to avoid the conclusion that the blood somehow gets out of the vessels. When in addition it is observed that the patient is sweating freely the evidence seems conclusive. I think it highly probable that serum escapes primarily and that the specific gravity of the blood does tend to rise, but when I first wrote on this subject I pointed out that there are indications that the solid parts of the blood are also destroyed in excessive amount in the state of shock—to wit, for example, the bilious vomiting so commonly observed. Hence I would not pin my faith to a raised specific gravity of the blood as a necessary effect of its diminished volume, and particularly in clinical cases, in which there may be many complicating conditions, this consideration might lead to error. It must be remembered also that hæmorrhage tends to *lower* the specific gravity of the blood. I am, therefore, not persuaded that Mr. Short's evidence justifies his conclusion that it is "quite clear that oligæmia cannot be the essential factor in shock." I do not claim such importance for the condition, but it seems to me quite certain on clinical evidence alone that the amount of blood in the vessels diminishes as shock develops, and I think that Mr. Short might well revise his decision on this point.—I am, Sir, yours faithfully,

Wimpole-street, W., March 21st, 1914. JOHN D. MALCOLM.

CHOLESTEROL ANTIGEN IN WASSERMANN'S REACTION.

To the Editor of THE LANCET.

SIR,—So long as the discussion upon the uses and abuses of cholesterol in the Wassermann's reaction remains scientific and becomes no personal matter perhaps some real good may result. At the present moment a subcommittee is sitting to discuss the relative merits of the various ingredients and modifications of the Wassermann's reaction; useless as it may be any additional knowledge can do no harm. Before the relative merits of the ingredients and modifications of the Wassermann's reaction are given any consideration whatever, the *rationale* of the reaction should be understood; not until the empiricism is removed can any good result from an inquiry. It follows from this that the addition of any new substance, such as cholesterol to the antigen, is only another step into the dark; indeed, it is a hindrance and not an advance. For the last two years I have been trying to fathom the cause of the reaction, and in so doing have carried out several experiments with cholesterol, about which I would like to make a few remarks.

Provided the patient's serum is inactivated

[3] Journal of Mental Science, vol. lxiii., 1911.

within 48 hours of its withdrawal, and that the serum is neither kept longer than 24 hours in an ice incubator, nor longer than ten days at room temperature, the risk of obtaining a positive reaction in a non-syphilitic case with an antigen made up with an aqueous solution of cholesterol is remote. If, on the other hand, the precautions mentioned above are not adhered to—often they cannot be, and usually they are not—the risk referred to becomes very great. If it is necessary to make the reaction sharper, what are the reasons? For diagnosis the reaction should be seldom required. Failing diagnosis, its next use is to regulate treatment. Making the reaction sharper means the administration of more treatment, until in the majority of even early cases of syphilis, it is impossible, even two or three years after the most vigorous treatment has been given, when clinically we assume the patient to be cured, to obtain a negative reaction.

Being nearly always able to produce a positive reaction in a patient who has once had syphilis, in spite of the treatment he has undergone, by sharpening the reaction with cholesterol, or by other and safer means, we are at once confronted with the thought as to whether a positive reaction indicates, as we have always been led to believe, active syphilis. In my opinion a positive reaction means no more than that the patient has had syphilis, and it is by no means necessarily indicative that the disease is active and therefore requires treatment. The addition of cholesterol in the antigen and several other points which have come to light have made me rely more and more upon clinical evidence only, and I am convinced that the greatest source of error in the reaction lies in the fact that those who carry it out have no clinical knowledge of syphilis, and that those who have the clinical knowledge are not alive to the fallacies of the serological aspect.

I am, Sir, yours faithfully,

London, W., March 21st, 1914. J. E. R. MCDONAGH.

THE NATIONAL INSTITUTE FOR THE BLIND.

To the Editor of THE LANCET.

SIR,—I am venturing to make myself the mouthpiece of the many blind and partially blind folk who will benefit by your kindly and able advocacy, and to thank you most sincerely on their behalf.

The lives of the blind, particularly of the poor blind, are very dull and monotonous, and short of restoring to them their sight nothing can be given them of greater value than books. I was discussing the question of our campaign the other day with a lady who has been doing most excellent work among the poor for many years; she said: "I think you are making too much of this question of books for blind people. In my work I often come across blind poor folk, and my observation leads me to believe that they do not want books; they are content to sit still with their hands folded."

Now, here was an objection which seems to me to be a great argument in favour of our campaign. I do not want these poor blind people to go on being content to sit with folded hands. I want those folded hands to be busy passing to and fro along the lines of Braille type, and those unimaginative minds to be filled with pictures of the great and wonderful world which their owners cannot see.

The rising generation of the blind have all been taught to read with their finger-tips, and are only too eager for the literature which is now so scarce because it is so dear. And when Braille books are cheap, as I firmly believe a generous public will enable us to make them, the older generation of blind people, and those who, like myself, are not stone blind but can no longer see to read, will also welcome and enjoy these books. Old folk whose sight is lost or seriously impaired can find a new joy in life by reading Braille books. I am happy to say that I have in the last few months persuaded several such people to learn Braille with the happiest results. Braille is not difficult to learn. I mastered its principles in a fortnight, and once that is done it only remains to acquire speed by practice. Expert blind readers can read Braille as swiftly as a sighted person can read rapidly aloud, so books are quickly devoured, and new ones as quickly in demand, for the blind, with their inability to enjoy the ordinary forms of relaxation, have much time for reading.

A vigorous and intelligent young man who was doing well in Canada until he recently lost his sight suddenly, and was in consequence obliged to return to his people at home, applied to me the other day for work in connexion with our campaign. I was able to give him this, and in thanking me he said: "I want to help spread Braille reading, for, as you know, the loss of sight takes the spirit out of a man, and I only began to get mine back when I mastered Braille. It is an incredible help."

I hope that those of your readers who have decided to help charities by testamentary bequests will not mind my venturing to suggest the inclusion of this institute among their benefactions. With renewed thanks for your generous advocacy of our cause, believe me to be, Sir,

Yours faithfully,

C. ARTHUR PEARSON,
Honorary Treasurer, National Institute for the Blind,
March 21st, 1914. 206, Great Portland-street, London, W.

A NATIONAL MEDICAL SERVICE.

To the Editor of THE LANCET.

SIR,—Mr. C. A. Parker in THE LANCET of March 14th (p. 786) now tells us that a State medical service, meaning, as the context shows, a whole-time salaried service, seems to him the only way of remedying existing medical evils. This may well explain his wish that such a service did not carry with it the obvious disadvantage in most people's eyes of depriving patients of free choice of doctor. But it does not excuse him for saying that such a service could provide "as great a free choice as at present," a statement which I think your readers are satisfied cannot be strictly defended. I am not without hope that if Mr. Parker pursues his investigations further he may come to recognise that there are not only other disadvantages besides the abrogation of free choice in such a service, but also that his belief that such a service is the only means of remedying existing evils is not justified by facts.

May I first submit to Mr. Parker's consideration one very serious disadvantage of any whole-time salaried service. It must definitely and permanently divide the profession into two classes—the doctors of the rich and the doctors of the poor. Mr. Parker in his letter writes with apparent approval of the possibility in the near future of large numbers of general practitioners devoting themselves entirely to the treatment of insured persons and their

dependents, and questions whether the benefits of the services of such practitioners might be ultimately extended to others in better circumstances. One might as well question whether the benefits of the elementary schools might be extended to the upper classes, or the benefits of the Poor-law medical service to well-paid artisans. If the whole-time salaried service were really the boon to humanity that Mr. Parker and others believe it to be, should we not find it being first introduced for the benefit of the rich and later being extended to the poor? When the mover and seconder of a Bill for the establishment of a whole-time medical service, be they members of the Labour party or any other party in Parliament, explain that they for themselves and their wives and families are expecting to make use of the benefit thus provided, the scheme might be regarded as within the range of practical politics. The present schemes for establishing such a service are really proposals made by superior persons for the good of the "lower orders," whose poverty would alone compel them to submit to the discipline of State medical officials, a discipline from which our legislators themselves and the wealthy classes generally would secure freedom by the payment of money. Mr. Parker quotes with satisfaction a recent decision of the High Court that a parent might be imprisoned for refusing to submit his child to a surgical operation recommended by a doctor. Does Mr. Parker imagine that a High Court judge will ever have the opportunity of imprisoning or fining a peer or a member of the House of Commons for not allowing a surgeon to remove his child's adenoids or a bacteriologist to inject it with a tuberculin? If a judge is found on appeal to a still higher court to have the power at the present time to deal out justice of this sort to the poor there can be little doubt that further legislation will in due time deprive him of it.

It would be a good criterion of the value of any suggested legislation in connexion with medicine to consider whether we are proposing to extend privileges already possessed by the independent classes to those who are in poverty, or to set up for those in straitened circumstances so-called benefits of which the wealthy classes would never avail themselves. Measured by such a test the whole-time salaried medical service will, I believe, be regarded by the great majority of the public and the profession as unacceptable.

I have no scruples in thus pointing out to Mr. Parker that his panacea for all medical evils is impracticable, for I am sure I can show him that most of the real improvements he desires are attainable independently of his cherished whole-time service. A doctor on a panel can refer his patient to a consultant, a specialist, or a bacteriologist, just as easily and profitably as could a member of a whole-time service. The provision of sufficient hospital accommodation throughout the kingdom, the making of it accessible to all classes who want it, and the aid, if need be, of the State in securing these objects, do not in the least depend upon the patient before or after admission to the wards being under the care of a whole-time servant of the State. For great numbers of insured persons and others these supplementary medical necessities are already provided in a haphazard way by philanthropic effort through the medium of our voluntary hospitals. There is, without doubt, room for considerable extension and for much more systematic administration. The aid of the State is almost certainly necessary in many directions. A chief obstacle to the attainment of these desirable aims is the clamour of a small section of reformers who insist, in season and out of season, that the only possible way of remedying existing evils is the quite impossible way of transforming all that part of the profession which treats the industrial classes into a State service of whole-time salaried officers.

No one stops progress so much as he who insists that the impracticable must first be achieved.

I am, Sir, yours faithfully,

Harley-street, W., March 15th, 1914. LAURISTON E. SHAW.

THE MILWARD FUND: A LETTER OF THANKS.

To the Editor of THE LANCET.

SIR,—Will you allow me, through THE LANCET, to express a little of the gratitude I feel to all those who have so generously helped me and my boys in our need?

Of the practical sympathy shown us, you have just published some of the material results; and only those with children to equip for their work in life can realise the load of responsibility of which I have been relieved by the assurance of good education for my boys, and of the means to meet their expenses during their apprenticeships.

I cannot hope to express adequately my appreciation of this, and even less can I do so of the constant reminders of sympathy and encouragement that so many have given us since our loss.

I can only trust that our gratitude may meet with the same understanding that our many friends have shown us in our sorrow.

Believe me, yours faithfully,

E. S. DOROTHY MILWARD.

5, Glossop-road, Cardiff, March 21st, 1914.

AN ASSOCIATION OF TUBERCULOSIS MEDICAL OFFICERS.

To the Editor of THE LANCET.

SIR,—The letter on the above subject in your issue of March 21st suggests to me four points:—

1. Sanatorium and consumption hospital residents and pathologists to be included. There would then result an association somewhat like the German one of *Tuberkulose Aerzte*, excellent reports of whose meetings reach one from time to time. It must be confessed that some tuberculosis officers have been appointed upon insufficient experience and scarcely know their subject.

2. None but "tuberculosis whole-timers"—i.e., those who deal with no other disease—to be eligible for any sort of membership.

3. Coöperation with the existing Irish association to be promoted in every possible way, perhaps later by establishment of a common journal; separate space in this should be given to each of the four countries for local news.

4. Those "tuberculosis whole-timers" who served on, or furnished memoranda to, the recent Departmental Committee on Tuberculosis to be invited to join with representatives of tuberculosis officers to form a committee of inauguration and general management.

I enclose my card and remain, Sir,

Yours faithfully,

March 23rd, 1914. TUBERCULOSIS OFFICER.

VICTORIA HOSPITAL, FROME.—It has been decided to carry out extensions and improvements at this hospital in order that the institution may be placed on the official list of the Somerset County Insurance Committee, and thus be in a position to treat patients suffering from tuberculosis. The cost of the scheme is estimated at £1250.

THE NATIONAL INSURANCE ACT.

CONFERENCE OF LOCAL MEDICAL AND PANEL COMMITTEES.

A CONFERENCE of Local Medical and Panel Committees, convened by the British Medical Association, was held on March 13th at the Connaught Rooms, London, under the chairmanship of Mr. D. F. Todd. The conference arose out of a preliminary meeting of representatives of Local Medical Committees held at Brighton in July last. The conference decided that a permanent organisation, in association with the British Medical Association, should be formed to coördinate Local Medical and Panel Committees throughout the kingdom. It was then agreed that a Provisional Committee, to be elected by ballot, be forthwith appointed to prepare a memorandum embodying the name, constitution, and objects of the new organisation; and the following were declared elected: Mr. Russell Coombe, Mr. H. F. Devis, Dr. G. W. Eustace, Mr. P. Napier Jones, Dr. H. F. Oldham, Mr. D. F. Todd, and Dr. F. E. Apthorpe (England); Dr. J. R. Drever and Dr. C. Forbes (Scotland); Dr. J. R. Prytherch and Dr. W. E. Thomas (Wales); and Dr. W. Doolin (Ireland). It was next decided that the rate of subscription towards the expenses of the new organisation should be £1 for every 20,000 insured persons in each insurance area in Great Britain, the funds to be raised by voluntary levy. Among various resolutions adopted by the conference was one to the effect that the examination of a patient by a practitioner other than the medical attendant, without the knowledge of the latter is a breach of the fundamental ethical principles of the medical profession. Another resolution invited Local Medical and Panel Committees to use all their influence in urging upon panel practitioners their duty to make the panel system a success, and thus avoid the alternative possibility of a whole-time State Medical Service being established. The conference also agreed to press for uniformity of certificates and for the prevention of interference by insurance agents in the issuing of such certificates by medical practitioners.

THE PANEL COMMITTEE FOR LONDON.

The first Panel Committee for the county of London, which consists of 71 members elected under a special scheme approved by the Insurance Commissioners, by the practitioners on the panel for the City of London and for the 28 metropolitan boroughs, at their first meeting appointed Dr. B. A. Richmond, Dr. G. B. Batten, Dr. Lauriston E. Shaw, and Dr. A. Welply to be their chairman, vice-chairman, honorary treasurer, and secretary respectively, and appointed four subcommittees to deal with the following matters:—

1. Finance and General Purposes Subcommittee (Chairman, Dr. H. J. Cardale).

All questions connected with the provision of office accommodation, stationery and printing, staff, standing orders, accounts, and any matter not delegated or referred to any other subcommittee.

2. Organisation Subcommittee (Chairman, Dr. C. W. Cunnington).

All questions connected with the organisation of the committee and of practitioners on the London panel, in order to secure the efficient administration of medical and sanatorium benefits.

3. Panel Service Subcommittee (Chairman, Mr. W. H. Hatfield).

All questions connected with the service of practitioners under the National Insurance Acts.

4. Pharmacy Subcommittee (Chairman, Dr. C. W. Hogarth).

LOCAL MEDICAL COMMITTEE FOR LONDON.

In the list of nominations for the election of a Local Medical Committee for London, which was sent to us and published in our last issue, the nomination of Mr. Robert Vincent Donnellan as a panel practitioner for Lewisham was omitted. He was duly declared elected without opposition.

Dr. Wilfred Kingdon asks us to state that in reference to his seat on this committee he was requested to stand for election by representative men of the Hammersmith, Kensington, Paddington, and Westminster areas, where his views on the working of the National Insurance Act were well known; and that he does not see his way to accede to the request of the National Medical Union that he should withdraw his name. He has communicated his views to the honorary secretaries of the National Medical Union.

GLASGOW BURGH INSURANCE COMMITTEE.

At a meeting of the Glasgow Insurance Committee a resolution was passed for the division of a balance of the panel fund estimated at £4000 arising in respect of unallotted patients, the distribution to be among all practitioners on the panel equally, except that it should be proportional to the length of time for which a practitioner should have been on the panel. A suggestion was negatived that the distribution should be equal without regard to the condition mentioned, in which case each of the 400 members of the panel would have received the sum of £10. It was stated that the difficulty of unallotted funds was solving itself in Glasgow more or less rapidly by insured persons placing themselves upon the list of medical practitioners.

THE visit of the King and Queen to the Palladium Theatre on March 17th has had the excellent result of bringing £2000 to the fund for rebuilding the Chelsea Hospital for Women.

CONFERENCES IN ELECTROLOGY, RADIOLOGY, AND RADIUM.—The second series of these theoretical and practical conferences, organised by the chiefs of laboratories of radiology and electro-radiotherapy of the Paris hospitals, will begin on May 4th in the amphitheatre of the Hôpital de la Pitié, Paris, on which day the conference will be opened at 4.30 P.M. (under the presidency of Dr. Barth) by Professor d'Arsonval. The theoretical part of the course will be divided into three: Electrology, from May 4th to May 16th; Radiology, from May 18th to June 3rd; and Radium-therapy, Photo-therapy, and Helio-therapy from June 4th to June 6th. The lecturers will be Dr. Bourgignon, Dr. Ehrmann, Dr. Lebon, Dr. H. Béclère, Dr. Albert-Weil, Dr. Delherm, Dr. Laquerrière, Dr. Belot, Dr. Chicotot, Dr. Charlier, Dr. Lomon, Dr. Aubourg, Dr. Jaugeas, Dr. Legros, Dr. Calvé, Dr. Desternes, Dr. Barret, Dr. Bouchacourt, Dr. Baudon, Dr. Beaujard, Dr. Ledoux-Lebard, Dr. Haret, and Dr. Gastou. The second part, consisting of practical demonstrations in the various subjects, will take place in the mornings at the laboratories of the Paris hospitals, those attending being divided up into classes of not more than ten. Applications for inscription, which is free, should be made to Dr. Delherm, Hôpital de la Pitié, Boulevard de l'Hôpital, 83, Paris (XIII.); or to Dr. Aubourg, Hôpital Boucicaut, Rue de la Convention, 62, Paris (XV.)

Medical News.

UNIVERSITY OF SHEFFIELD.—The Senate has approved the following examination results:—

SECOND EXAMINATION FOR THE DEGREES OF M.B., CH.B.

Whole Examination.—Frederick Gamm, George Kingsley Edwin Inman (distinction in Materia Medica and Pharmacy), Robert Henry Rae, and William Sharrard.

Part A only (Anatomy and Physiology).—Frederick George Edward Hill and Florence Elizabeth Millard.

Part B only (Materia Medica and Pharmacy).—Mary Andrews.

The Senate has also awarded the Kaye Scholarship in Anatomy and Physiology to Mr. Frederick Gamm.

VICTORIA UNIVERSITY OF MANCHESTER.—At examinations held recently the following candidates were successful:—

Diploma in Public Health.—R. D. B. Frew, John Gibson, G. B. Pemberton, and W. W. Stacey.

Diploma in Veterinary State Medicine.—John Facer, William Halstead, Thomas Menzies, and H. L. Torrance.

UNIVERSITY OF DURHAM: FACULTY OF MEDICINE.—At examinations held recently the following candidates were successful:—

FIRST EXAMINATION FOR THE DEGREE OF BACHELOR OF MEDICINE.

Elementary Anatomy and Biology.—Alan Angus, Thomas Leslie Barkas, and Douglas George Patrick Bell, College of Medicine, Newcastle-upon-Tyne; James Allan Berry, Guy's Hospital, London; Thomas Henry Blench and John Arthur Gardner Brewis, College of Medicine, Newcastle-upon-Tyne; Norman Briggs, University College Hospital; Ernest Dewar Charles, College of Medicine, Newcastle-upon-Tyne; Harold Charles Clifford-Smith, Charing Cross Hospital; and Wallace Alexander Freedman, Giles Arthur Michael Hall, Alexander Thomas Harrison, Mary Kathleen Henegan, Donald Falconer Hocken, George Eric Hyden, William Arthur Jaques, Robert Turnbull Easton Naismith, and Louis William Studdy, College of Medicine, Newcastle-upon-Tyne.

Chemistry and Physics.—Ewart Gordon Anderson, London Hospital; and Thomas Kirsopp. Wallace Laing, and Freda Newman, College of Medicine, Newcastle-upon-Tyne.

SECOND EXAMINATION FOR THE DEGREE OF BACHELOR OF MEDICINE.

Anatomy and Physiology.—Richard Vere Brew, College of Medicine, Newcastle-upon-Tyne; Dorothy Edith Butcher and Stephanie Patricia Lalline Hunte Taylour Daniel, London School of Medicine for Women; Hugh John Dingle, College of Medicine, Newcastle-upon-Tyne; Christopher Thomas Helsham, Guy's Hospital; and Donald Henegan, Patrick Hickey, Phyllis Marriott, Carl Damien Newman, Ralph Roylance Scott, Kamel Ibrahim Shalaby, Sadek Abdel Shehid, and Iskander Soliman, College of Medicine, Newcastle-upon-Tyne.

UNIVERSITY OF OXFORD.—Dr. Charles Goring, deputy medical officer to H.M. Prison, Parkhurst, has been awarded the Weldon Memorial Prize.—At a special Convocation on March 24th the honorary degree of Doctor of Science was conferred upon Surgeon-General William C. Gorgas, M.D., of the United States Army, in recognition of his services during the construction of the Panama Canal.

ROYAL SANITARY INSTITUTE.—At the provincial sessional meeting to be held at Southampton on April 3rd a discussion on the Housing and Town Planning Act and its Application to Southampton will be opened by Dr. E. H. M. Stancomb. The chair will be taken at 7 P.M. by Sir Henry Tanner. Tickets for visitors may be obtained from Dr. R. E. Lauder, Health Department, Municipal Offices, Southampton, honorary local secretary of the meeting.

WEST CORNWALL INFIRMARY, PENZANCE.—The president of the West Cornwall Infirmary (Sir Clifford Cory, M.P.) has given £345 towards the funds of the charity. This will enable the committee to pay off the adverse balance against the institution, to defray the cost of installing a new heating apparatus for the operating theatre, and also provide means for the necessary expenditure for increasing the power for the X rays apparatus.

ASSOCIATION OF ASSISTANT MEDICAL OFFICERS OF ASYLUMS.—The first annual general meeting of this association was held recently at the Westminster Palace Hotel, London. The executive reported that they had been granted an interview with the Board of Control, who had sympathetically discussed the claims of assistant medical officers with respect to medical work, marriage, quarters, and study leave. The membership of the association now numbers 130. The honorary secretary is Mr. F. J. Stuart, Berry Wood, Northampton.

MOUNT VERNON HOSPITAL.—At the annual meeting of the governors of Mount Vernon Hospital for Consumption, held at the hospital on March 18th, it was decided to sell the hospital at Hampstead to the Medical Research Committee for the sum of £35,000.

SCHOOL MEDICAL SERVICE GROUP OF THE SOCIETY OF MEDICAL OFFICERS OF HEALTH.—In a letter received too late for publication Dr. A. Ashkenny, 38, George-road, Edgbaston, Birmingham, honorary secretary of this Group, invites assistant whole-time medical officers to communicate with him before applying for appointments which do not conform to the conditions approved by the Group.

SOCIETY FOR THE STUDY OF INEBRIETY.—The annual meeting of this society will be held in the rooms of the Medical Society of London, 11, Chandos-street, Cavendish-square, W., on Tuesday, April 7th, at 4 P.M. After the usual business of the meeting Lady Henry Somerset, founder and lady superintendent of the Duxhurst Colony for Women Inebriates, will open a discussion on the Female Inebriate.

PRESENTATION TO MEDICAL PRACTITIONERS.—On March 18th, at Colchester, a complimentary dinner was given by the members of the North-East Essex Division of the British Medical Association to Dr. W. Leigh Day, Mr. W. F. A. Clowes, and Mr. Stanley E. Worts in recognition of their strenuous efforts on behalf of the profession during the fight against the National Insurance Act. During the evening each of these gentlemen was presented with a silver bowl suitably engraved, the presentation being made by Mr. J. H. Salter, who presided at the dinner.

DONATIONS AND BEQUESTS.—At a meeting of the governors of the Warneford and South Warwickshire General Hospital, Leamington, recently it was announced that a lady had bequeathed £3000 for the endowment of three beds.—Under the will of the late Mr. A. W. Walker, of Leominster, the Herefordshire General Hospital will receive £1000.—The Queen's Hospital for Children, Hackney-road, has received a donation of £1000 from the trustees of the Zunz bequest.—To mark the coming of age of the Marquis of Titchfield, eldest son of the Duke and Duchess of Portland, as well as the twenty-fifth anniversary of their graces' marriage, the Duke of Portland has sent the sum of £200 to the chairman of the Bignold Hospital, Wick, as a donation to the funds of the hospital.

IRISH MEDICAL SCHOOLS' AND GRADUATES' ASSOCIATION.—The thirty-seventh meeting of this association was held on St. Patrick's Day, when the out-going president, Dr. W. Douglas, resigned the chair to Sir Havelock Charles, G.C.V.O. The annual report showed that the association continues to flourish, the number of members, including many naval and military medical officers, as well as residents abroad, amounting to 631, and the financial condition being equally satisfactory. A vote of thanks was accorded to the retiring president and other officers. The festival dinner took place the same evening at the Hotel Cecil, the President being in the chair. Upwards of 200 ladies and gentlemen were present. The guests of the association were the Right Hon. Lord MacDonnell and Sir James Digges La Touche, K.C.S.I. The general company included Lady Charles, Lady La Touche, Mr. and Mrs. David Arnott, Sir John Lentaigne, president-elect; Dr. Douglas, Dr. P. S. Abraham, and Dr. H. Macnaughton-Jones, past presidents; Dr. J. Jocelyn Swan, chairman of council; Dr. W. P. Cockle, honorary treasurer; and Dr. Gordon M. Holmes, Mr. Shepherd Boyd (Harrogate), and Mr. W. J. Corbett, honorary secretaries. After the loyal toasts had been honoured, Dr. Douglas eloquently proposed the toast of "Our Defenders," which was responded to by Professor Cummins, Major R.A.M.C. Sir John Lentaigne proposed "Our Guests," which was responded to by Lord MacDonnell, who said that he felt doubly drawn to the medical profession because, in the first place, he was himself a medical student before he thought of the Indian Civil Service; and secondly, because his brother, the late Dr. Mark MacDonnell, M.P., was a foundation member and warm supporter of the association. The toast was also responded to by Sir James Digges La Touche. The toast of "The Association" was proposed by Dr. Macnaughton Jones, who said it was an exceptional pleasure

to him to associate with the toast the name of a former much-beloved pupil who had brought considerable credit on his old Cork *alma mater* by his distinguished services to science and the nation. The President, in reply, said he felt it a great honour to be placed in a chair which had been filled by such well-known members of the profession as Lord Ilkeston, William MacCormac, Richard Quain, Sir William Whitla, Professor Alexander Macalister, Sir Alfred Keogh, and Dr. Macnaughton-Jones. During the evening it was announced that the Arnott gold medal had this year been awarded by the council to Dr. A. Launcelot Hoops, a State surgeon in the Malay Peninsula, for his heroism in endeavouring to save the life of a boy who fell into the river Liffey.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The House of Commons and Housing.

HOUSING questions have recently been prominently before the House of Commons, and although the atmosphere of party surrounds the solutions of some aspects of the problem, it is common ground that from the public health point of view much requires to be done both in the direction of erecting new houses and in dealing with existing insanitary dwellings. A discussion on the problem took place on Friday, March 20th, on the Housing of the Working Classes Bill, the second reading of which was moved by Sir A. GRIFFITH-BOSCAWEN. It may be noted at the outset from the narrower medical aspect that one of the most important announcements made in the course of the debate was that the Government was giving earnest attention to the question of the security of the positions of medical officers of health and sanitary inspectors.

The Bill is promoted by members on the Opposition side of the House. Sir A. GRIFFITH-BOSCAWEN indicated the three principles on which it proceeded. The first was that the housing evil was so great that the nation must step in and shoulder part of the burden; the second was that the State should work through the local authorities; and the third was that although State and municipal provision was necessary, private enterprise must continue to do the biggest share. With regard to the country, the Bill provided that where houses could not be built to be let at rents which the poorest could afford to pay, the State should bear a portion of the cost. In the subsequent debate much was heard about the evils to health which arise from overcrowding and insanitary dwellings. Some objections were taken to the Bill on the Ministerialist side on the ground that it would provide a "subsidy" to landowners.

Mr. HERBERT SAMUEL, the new President of the Local Government Board, fully admitting the gravity of the problem of housing, urged a number of financial considerations against the precise proposals of the Bill. He intimated that he had taken steps to set on foot a housing survey with a view to ascertain the number of houses unfit for habitation and the number of those which, while not absolutely unfit, were unhealthy and required structural alterations. Amongst the proposals which the Government favoured to provide a remedy were the enactment of a minimum wage and the relief of rating upon housing and improvements. He also looked to the improvement in methods of transit to spread the population over a larger area. It was desirable to remove restrictive building by-laws, and the Parliamentary Secretary of the Local Government Board had accepted the duty of acting as chairman of a Departmental Committee to go into this question and to make suggestions for legislative and administrative action. The report of the Departmental Committee on Local and Imperial Taxation would be published in a few days. It would be found that amongst their proposals would be a suggestion that there should be a grant from the Central Exchequer to all local authorities to assist them to deal with questions of public health. The grant, it was suggested, should be based upon population and should be conditional upon the due performance of their duties in respect to public health. He was not in a position to pledge the Government with regard to that, for it had not yet come under the consideration of the Treasury. Amongst other matters the security of the positions of medical officers of health and sanitary inspectors was receiving the earnest attention of the Government. They were also considering a number of minor amendments of the Housing Acts.

The Bill was read a second time, without a division.

HOUSE OF COMMONS.

WEDNESDAY, MARCH 18TH.

Grants for the Treatment of Tuberculosis.

Mr. ASTOR asked the honourable Member for St. George's-in-the-East, as representing the Insurance Commissioners—(1) whether any councils of counties or county boroughs had agreed, under Section 17 of the National Insurance Act, 1911, to pay half of any expenditure on the treatment of tuberculous insured persons over and above the money provided for sanatorium benefit under Section 16 of the same Act; and, if so, whether he would give the names of those authorities in England, Scotland, Ireland, and Wales respectively who had agreed to such expenditure; and (2) whether any Insurance Committees had under Section 17 (2) of the National Insurance Act, 1911, transmitted to the Treasury and the councils of counties or county boroughs any communication or account showing that the amount available for defraying the expenses of sanatorium benefit to insured persons resident within their area was already or was likely to be insufficient to meet such estimated expenditure; and, if so, whether he would give their names.—Mr. WEDGWOOD BENN wrote in reply: The arrangement by which the Treasury is prepared to meet one-half of the annual net cost to a local authority of a scheme for the treatment of tuberculosis among the whole population of the area has provided an alternative to procedure under Section 17 (2) of the National Insurance Act, 1911, which alternative has been widely adopted by local authorities. In England, though procedure under Section 17 (2) has in a few instances been at first suggested, the alternative method of a Treasury grant towards the cost of a comprehensive scheme is generally preferred, and in no case has Section 17 (2) been put into operation. A grant under the subsection has been sanctioned in the case of three counties and nine burghs in Scotland and in the case of one county in Ireland. All the counties and county boroughs in Wales with one exception have agreed to contribute out of the rates to the Welsh National Memorial Association.

Treatment of Tuberculous Persons.

Mr. HERBERT SAMUEL (President of the Local Government Board), replying to Mr. ASTOR, wrote: According to a special return obtained in November, 1911, there were at that time 6908 cases of pulmonary tuberculosis and 1946 cases of other forms of tuberculosis under treatment in Poor-law institutions in England and Wales. There are no later figures available.

Mr. HUME WILLIAMS asked the right honourable gentleman in how many sanatoriums provided under the National Insurance Act for the treatment of tuberculous patients non-insured persons were being or had been treated, and where these sanatoriums were situated.—Mr. HERBERT SAMUEL (in a written answer) replied: As regards England, all the sanatoriums the provision of which is being aided by grants from the Local Government Board will be available not only for those insured under the National Insurance Act, but also for the non-insured; and the other sanatoriums which have been approved under the Act for the reception of insured persons are also generally being used for non-insured persons as well. In regard to the last part of the question, perhaps I may refer the honourable Member to the return of approved sanatoriums presented to Parliament last autumn. The information contained in the return was brought up to date at the end of January, and I am sending the honourable Member a copy of the revised list.

Mr. HUME WILLIAMS also asked the right honourable gentleman whether in some institutions in which tuberculous patients were being, or had been, treated under the National Insurance Act, patients suffering from other and infectious diseases were, or had been, treated at the same time under the same roof, and not only in separate pavilions; and, if so, which were these institutions.—Mr. HERBERT SAMUEL wrote in reply: Proposals were submitted to the Local Government Board in the case of five institutions to use for the treatment of tuberculosis, under the National Insurance Act, a portion of a building the other portion of which might be required in emergency for the treatment of other infectious diseases. In these cases temporary approval was given either on condition that the tuberculous patients would be removed if cases of other infectious diseases were received in the building, or on other conditions which I am advised sufficiently safeguarded the patients against risk of infection. The institutions in question are the infectious diseases hospitals belonging to the corporations of Blackpool, Winchester, Hastings, and Hove, and the urban district council of Barnes. In the case of the last three hospitals arrangements have now been made whereby a whole pavilion is set aside for the treatment of tuberculosis.

Insured Persons and Non-Pulmonary Tuberculosis.

Replying to Mr. ASTOR, Mr. WEDGWOOD BENN said: The sanatorium benefit return in course of preparation will show the number of insured persons suffering from non-pulmonary tuberculosis who have applied for and received treatment.

Insured Persons and Homœopathic Practitioners.

Mr. WEDGWOOD BENN informed Mr. MONTAGU BARLOW that it was open to an insured person who desired the services of a homœopathic doctor not on the panel to apply to the Insurance Committee for leave to make his own arrangements for the purpose.

Mount Vernon Hospital.

Mr. CHANCELLOR asked the Chancellor of the Exchequer whether he had received the resolution passed at a public meeting held in Hampstead town-hall on March 10th, which protested against the use of the Mount Vernon Hospital for the vivisection of animals; and would he state what action he proposed to take in the matter.—Mr. WEDGWOOD BENN (on behalf of Mr. LLOYD GEORGE) replied: My right honourable friend has not seen the resolution referred to in the question, and the chairman of the joint committee has not received from the committee their scheme of research work to be undertaken at the place mentioned, so that he is not yet in a position to consider any matters that might be included in such a scheme.

Mr. CATHCART WASON asked whether the Medical Research Committee under the National Insurance Act had actually acquired Mount Vernon Hospital, Hampstead.—Mr. WEDGWOOD BENN answered: The reply is in the affirmative.

Colonel BURN: May I ask whether this General Insurance Fund money is being used for vivisection research?—Mr. WEDGWOOD BENN: Under the Act there is a Parliamentary grant for the purpose of research work.

Colonel BURN: Is it allowed for vivisection work?—Mr. WEDGWOOD BENN: In my answer I stated that the Research Committee has not yet prepared a scheme.

Experiments on Living Animals.

Mr. MCKENNA, the Home Secretary, informed Mr. CHANCELLOR that much labour was involved in the preparation of the Return on Experiments on Living Animals. In answer to the question whether he would arrange for its publication this year not later than May, all he could say was that he could not promise more than that it should be published as early as possible. The date of the publication of the report did not in any way affect the power to institute proceedings for contraventions of the Act so far as the Home Office was concerned, as they were reported to the Secretary of State so soon as they were discovered.

Mr. CHANCELLOR also asked the right honourable gentleman whether he would explain why a member of a society whose main objects were to promote the practice of vivisection and to protect the interests of vivisectors was a fit and proper person to protect from cruelty animals subject to experiment, and to check and report on the work of licensed vivisectors; whether he would say why, having regard to the recommendations of the Royal Commission on Vivisection, Mr. W. P. G. Graham, a member of the Research Defence Society, had been recently appointed an inspector.—Mr. MCKENNA wrote in reply: Mr. Graham is not now a member of the Research Defence Society. He informs me that he subscribed to it formerly for the purpose of obtaining certain of its literature bearing on his work as head of the public health department in Egypt, but he took no part in its proceedings, and he resigned his membership on appointment as inspector under the Cruelty to Animals Act, 1876. The recommendation of the Royal Commission on Vivisection was that the inspectors should be qualified medical men of such position as to secure the confidence both of their own profession and the public, and I had regard to that recommendation in appointing Mr. Graham.

Overcrowding in England and Wales.

Mr. ASTOR asked the President of the Local Government Board what was the number of houses in England and Wales which were overcrowded on the basis of more than two persons to a room.—Mr. HERBERT SAMUEL furnished the following written answer: The number of separate houses overcrowded has not been ascertained, tenements being the correct basis for an inquiry of this kind. The Census figures of 1911 show the numbers of separate families and the population overcrowded on the basis of more than two persons to a room, as follows:—

Rooms in tenement.	Number of families.	Population.
1	57,835	211,770
2	135,092	804,071
3	130,272	1,023,925
4	81,811	792,716
5	22,484	260,246
6	3,097	41,770
7	294	4,503
8	16	288
9	9	183
Total 1–9 rooms.	430,910	3,139,472

Imported Milk.

Replying to Mr. ASTOR, Mr. HERBERT SAMUEL stated that 51 samples of imported cream and 25 of imported milk were obtained by the Local Government Board's inspectors during 1913, and were examined bacteriologically. None of the samples were found to contain tubercle bacilli.

Dwellings Unfit for Human Habitation.

Mr. ASTOR asked the President of the Local Government Board whether he would state how many dwelling houses had been found to be in a state so dangerous or injurious to health as to be unfit for human habitation as a result of inspections made by local authorities, pursuant to the provisions of Section 17 of the Housing, Town Planning, &c., Act, 1909.—Mr. HERBERT SAMUEL replied: In the year ended March 31st, 1910, the number represented to be in such a state was 6429; in the year ended March 31st, 1911, 24,429; in the year ended March 31st, 1912, 47,429; and in the year ended March 31st, 1913, 56,318.

THURSDAY, MARCH 19TH.

Nursing Home in Sierra Leone.

Mr. MCCALLUM SCOTT asked the Secretary of State for the Colonies whether it was proposed to close the nursing home in Sierra Leone Colony to native practitioners possessing European qualifications, and if so, upon what grounds was this decision based.—Mr. L. HARCOURT answered: The Government of Sierra Leone have proposed to make a new rule under which private practitioners would not be allowed to treat patients in the Nursing Home at Freetown. This rule would apply to all private practitioners, and would not affect native practitioners employed by the Colonial Government. The proposal is at present under consideration.

Treatment of a Suffragist Prisoner.

Mr. ASTOR asked the Home Secretary whether his attention had been called to the fact that Dr. Flora Murray and Dr. Frank Moxon, after interviewing and examining Miss Phyllis Brady on her release in February last from Holloway, stated that they had formed the opinion that Miss Brady had been given doses of bromide during her incarceration; and would he state whether Miss Brady was given bromide or any other hypnotic drug whilst in Holloway.—Mr. MCKENNA said in reply: The statements referred to were entirely without foundation. Neither bromide nor any other hypnotic drug was given to Miss Brady while she was in Holloway.

Panel Chemists in Stoke-on-Trent.

Mr. GODFREY LOCKER-LAMPSON asked the honourable Member for St. George's-in-the-East as representing the Insurance Commissioners whether the Stoke-on-Trent Insurance Committee had officially stated that in round figures the chemists in their area would only be paid 85 per cent. of their bills for 1913; whether the cost per prescription had risen during the year; and whether he proposed to see that these accounts were paid in full.—Mr. WEDGWOOD BENN answered: My right honourable friend understands that the drug funds of the Insurance Committee referred to, in whose area the per-attendance system was in operation for the first quarter of 1913, are estimated to amount approximately to 85 per cent. of the total chemists' bills presented. In the absence of any action by the chemists concerned to put into operation the surcharging provisions of the Regulations, the total amount available in the drug funds will be paid in settlement of their accounts as provided by the agreements into which they have entered. The average cost per prescription has risen during 1913, but the number of prescriptions has steadily decreased.

Dependents and Sanatorium Benefit.

Mr. ASTOR asked the honourable Member for St. George's-in-the-East how many Local Insurance Committees had extended sanatorium benefit to dependents, how many had ceased giving this benefit to dependents, and how many were still giving it to dependents of insured persons.—Mr. WEDGWOOD BENN (by written answer) replied: In England sanatorium benefit has been extended to the dependents of insured persons by 54 Insurance Committees, of whom 38 have now revoked the extension and 16 are still treating dependents. Apart from the last-mentioned areas, however, dependents of insured persons are receiving treatment in many other areas under comprehensive schemes for the treatment of tuberculosis. In Scotland 24 and in Ireland 23 Insurance Committees have extended the benefit to and are still treating dependents. In Wales all the Insurance Committees have extended benefits to dependents who are receiving treatment under the arrangements with the Welsh National Memorial Association.

Treatment of Non-Pulmonary Tuberculosis.

Mr. ASTOR asked the President of the Local Government Board whether any county councils or county borough councils, in preparing schemes for treating tuberculosis, had submitted proposals for treating non-pulmonary tuberculosis; and, if so, which ones have done so.—Mr. HERBERT SAMUEL wrote in reply: The answer to the first part of the question is in the affirmative. The schemes submitted by the county councils of Gloucestershire, Hertfordshire, Lancashire, and Worcestershire, and the county borough councils of Brighton, Bury, Gloucester, Liverpool, Plymouth, and Southport specifically include provision for the treatment of non-pulmonary tuberculosis, and in the large

majority of other cases the schemes are not expressly limited to the treatment of pulmonary tuberculosis.

MONDAY, MARCH 23RD.

Treatment of Tuberculous Persons.

Mr. CASSEL asked the Prime Minister whether the Government would introduce legislation to enable the expenditure incurred in treating insured persons suffering from tuberculosis in workhouse infirmaries to be recouped to the ratepayers.—Mr. ASQUITH replied: The question of the treatment of tuberculous insured persons is receiving consideration, but the Government have no intention of amending Section 12 of the National Insurance Act, 1911, in the direction suggested.

Medical Cards.

Mr. CHARLES BATHURST asked the honourable Member for St. George's-in-the-East, as representing the Insurance Commissioners, whether he was aware that the Insurance Commissioners had required in Memorandum 187 I.C., that no insured person would on and from Jan. 12th last be able, without a medical card, to exercise a choice of, or to claim treatment from, a doctor selected by him; that in spite of such regulations the medical cards had not reached insured persons in several hundred thousands of cases, with the result that they were wholly unable to obtain medical benefit when sick except at their own expense; and whether, as in such cases insured persons were being deprived of the benefit promised to them as the result of their own and their employers' contributions, the Government proposed to take any and, if any, what action in the matter.—Mr. WEDGWOOD BENN answered: Under the arrangements indicated in the memorandum in question doctors are not permitted to require the persons on their lists to produce medical cards as a condition of their receiving treatment until notified by the Insurance Committee that medical cards have been issued to all such persons. Those arrangements, moreover, provide a special procedure whereby persons who desire to choose a doctor may obtain a medical card for the purpose upon application, and my right honourable friend has no reason to believe that there is any ground for the apprehension of the honourable Member.

Surcharging for Drugs.

Mr. GODFREY LOCKER-LAMPSON asked the honourable Member for St. George's-in-the-East whether in the case of a deficiency in the drug fund in any district chemists who had not had their accounts paid for 1913 could surcharge the doctors for the amount if it was proved that the prescriptions had not been unreasonable.—Mr. WEDGWOOD BENN answered: The provisions of the Regulations as to surcharging apply only to prescriptions which are in excess of what is reasonable either in character or amount.

TUESDAY, MARCH 24TH.

Strike in Medical College, Lahore.

Mr. MACPHERSON asked the Under Secretary of State for India whether there was a strike of students in the Medical College, Lahore; if so, what was the cause of the strike; and whether he could say if there was an immediate prospect of its termination.—Mr. CHARLES ROBERTS replied: I have seen certain conflicting reports in the press as to the causes of the strike, but I am not in a position to make any statement. It is stated in the press that the strike is now ended.

The Drug Fund.

Mr. GODFREY LOCKER-LAMPSON asked the Prime Minister whether the Government would give facilities for the introduction of a Bill to provide a grant for those panel chemists whose accounts for 1913 could not be met out of the drug fund under the National Insurance Act.—Mr. ASQUITH answered: No, sir, I am not aware that a case has been made out for altering the arrangement under which the existing Parliamentary grant is given.

Medical Aspects of the Insurance Act.

Sir HENRY CRAIK called attention to the administration of medical relief under the National Insurance Act, and moved "That, in the opinion of this House, medical relief under the National Insurance Act is open to objection as regards some of its principles, inadequate in many respects, and likely to lead to serious difficulty, and that the supply of sanatorium benefit is greatly defective." The honourable Member said that 16,300 medical men were on the panels. There were many of them amongst the best of their profession ready to do honest work for their profession. But these panel practitioners were spread over 13,000,000 people, and a good many of them were duplicated on different panels. Patients were not equally distributed. There were cases where one doctor had over 3000 people on his list. The Act provided that these people were to receive adequate medical service. Was there time for skilled diagnosis in the case of men who had 2000 persons on their lists? What about provisions for operations? Nursing was not properly provided. The difficulties of hospitals had been increased and their resources crippled. Had adequate compensation been given for this? The honourable gentleman referred to malingering under the Act, and said that medical men resented any suggestion that they were in any degree responsible for conniving at it. The medical man's first duty was to his patient, and he had to put that before the consideration of the funds of a Friendly Society. The Government had involved themselves in a mass of complications by adopting the system which they did in the National Insurance Act.

Mr. GODFREY LOCKER-LAMPSON seconded. He said that he would not deal with the part of the subject which his honourable friend had spoken of. He would refer to other matters on which the expectations of the public had been deceived at the present time. In many thousands of cases sufferers from tuberculosis were not getting the treatment which they were paying for. If the Act was to be fair, there must be equality of treatment for everybody. The honourable Member also raised the question of the deficiencies of the drug fund in certain areas of Lancashire and elsewhere. The cause of trouble was not the unreasonable prescribing by the doctors, but excessive sickness in industrial areas. The drug fund was in danger of becoming bankrupt.

Mr. HERBERT SAMUEL said that it had to be remembered that "sanatorium benefit" as used in the Insurance Act did not imply that every consumptive person must necessarily be sent during the whole period of his illness to a sanatorium. The cases in their earliest stages were sometimes of very doubtful diagnosis, and it was necessary for them to be watched at the dispensary or hospital. After a patient had been to a sanatorium, if the disease was arrested, he resumed his ordinary daily life, and received domiciliary treatment. If the case grew worse the patient should have hospital treatment. The Astor Committee reported that the beds required in the sanatoria for insured persons were 2100 and an equal number in hospitals. The number of beds provided in sanatoria in England for the 2100 persons who might need them and for others was 5145, and the number in hospitals 2580. Up to the present no fewer than 20,000 insured persons had received treatment for tuberculosis either at sanatoria or in hospitals. When certain additional beds which were contemplated were provided there would be 12,000 beds in the country for persons suffering from this disease. For the first time an endeavour was being made to make provision for the whole of the population. At the present moment the measures were for the most part only in the preparatory stage. There was adequate accommodation in sanatoria for all insured persons suffering from tuberculosis. There was not yet adequate accommodation for the whole population, but it was being provided. Eighty per cent. of the population of England were already covered by the schemes so far submitted by the local authorities.

Mr. H. FORSTER pointed out that the Insurance Commissioners had as yet been unable to arrange for the services of consultants who would be required to deal with cases requiring more specialised attention than a general practitioner could be reasonably expected to give. He also asked whether suitable treatment was always afforded in the cases of tuberculosis treated under the Insurance Act.

Mr. WEDGWOOD BENN (who represents the Insurance Commissioners) asked the honourable Member (Sir H. Craik) whether the members of the medical profession authorised him to commit them to a voluntary system of insurance. If so, what were they to charge the patients? Would they go on treating them at the same rate if the good lives went outside the system of insurance?

Mr. LOCKER-LAMPSON: Will the honourable gentleman say whether the chemists are to be paid or not?

Mr. WEDGWOOD BENN: Is the honourable gentleman authorised by any body of chemists in Manchester or Salford to complain that any money owing to them is not paid?

Mr. LOCKER-LAMPSON: Will the honourable gentleman give a pledge that the chemists will be paid?

Mr. WEDGWOOD BENN: When I have reason to suppose that the chemists through authorised channels are making that demand, an answer will be given to that question.

The motion was under discussion at 11 o'clock, when by the rules of the House further debate stood adjourned.

Appointments.

Successful applicants for vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BRERETON-BARRY, J., L.A.H., has been appointed Assistant Surgeon to the Stockport Infirmary.

BROWN, J. PERCIVAL, M.B., Ch.B. Vict., has been appointed Medical Officer of Health of Bacup.

EDINGTON, G. H., M.D., C.M. Glasg., has been appointed Lecturer in Clinical Surgery at the Glasgow University.

FIGDOR, PHILIP, M.B., Ch.B. Glasg., has been appointed Assistant Medical Officer and Clinical Pathologist to the City of Westminster Union Infirmary, Hendon, N.W.

LAMBERT, GORDON ORMSBY, M.D., B.C. Cantab., has been appointed Assistant Physician to the Royal Berkshire Hospital, Reading.
MACQUEEN, R. C., F.R.C.S. Eng., has been appointed Senior Resident Medical Officer at the Royal Free Hospital.
NICHOL, F. E., M.B., B.S. Cantab., has been appointed Medical Officer to the Royal School for Deaf and Dumb Children, Margate.
PRIOR, JOHN RALPH, M.B., B.S. Durh., has been appointed Medical Officer of Health and School Medical Officer for the Urban District of Finchley.
WILLIAMS, E. U., M.R.C.S., L.R.C.P. Lond., has been reappointed Radiographer to the Royal Free Hospital.
WILSON, H. R., M.D., B.S. Lond., has been appointed Tuberculosis Officer to the Southwark Borough Council.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BARNSLEY, BECKETT HOSPITAL AND DISPENSARY.—Second House Surgeon, unmarried. Salary £100 per annum, with apartments, board, and laundry.
BARROW-IN-FURNESS, NORTH LONSDALE HOSPITAL.—House Surgeon. Salary £120 per annum, with residence, board, and laundry.
BATH, ROYAL UNITED HOSPITAL.—House Surgeon. Salary £100 per annum, with board, lodging, and washing.
BEDFORD COUNTY HOSPITAL.—Assistant House Surgeon. Salary £80 per annum, with board, lodging, and laundry.
BELGRAVE HOSPITAL FOR CHILDREN, Clapham-road, S.W.—Assistant Surgeon.
BENENDEN, KENT, NATIONAL SANATORIUM.—Assistant Medical Officer. Salary £120 per annum, with board, residence, and laundry.
BETHLEM HOSPITAL.—Two Resident House Physicians, unmarried, for six months. Salary at rate of £25 each per quarter, with apartments, board, and washing.
BIRKENHEAD UNION.—Resident Assistant Medical Officer. Salary £120 per annum, with board, apartments, &c.
BIRMINGHAM AND MIDLAND FREE HOSPITAL FOR SICK CHILDREN.—Resident Medical Officer and Resident Surgical Officer. Salary £80 per annum each, with board, washing, and attendance.
BIRMINGHAM CITY EDUCATION COMMITTEE.—Assistant School Medical Officer. Salary £280 per annum.
BIRMINGHAM UNION.—DUDLEY-ROAD INFIRMARY: Resident Assistant Medical Officer. Salary £140 per annum, with apartments, rations, laundry, and attendance.
BOLINGBROKE HOSPITAL, Wandsworth Common, S.W.—Two House Surgeons for six months. Salary £75 per annum, with board, residence, and laundry.
BOURNEMOUTH, ROYAL VICTORIA AND WEST HANTS HOSPITAL.—House Surgeon for six months, unmarried. Salary £100 per annum, with board, lodging, and washing.
BRADFORD CHILDREN'S HOSPITAL.—House Surgeon. Salary £120 per annum, with board, residence, and laundry.
BRADFORD UNION, EASTBY SANATORIUM, near Skipton.—Assistant Resident Medical Officer (female), unmarried. Salary £130 per annum, with rations, apartments, and laundry.
BRIDGWATER HOSPITAL.—House Surgeon, unmarried. Salary at rate of £125 per annum, with board, lodging, and washing.
BRIGHTON THROAT AND EAR HOSPITAL, Church-street, Queen's-road.—Non-resident House Surgeon for six months. Salary at rate of £150 per annum.
BRISTOL ROYAL HOSPITAL FOR SICK CHILDREN AND WOMEN.—House Physician. Salary £80 per annum, with board, rooms, attendance, and laundry. Also House Surgeon at end of May.
BRISTOL ROYAL INFIRMARY.—Two House Surgeons, House Physician, and Throat, Nose, and Ear House Surgeon, all for six months. Salaries at rate of £100 per annum, with board, apartments, and laundry.
BURLEY-IN-WHARFEDALE, SCALEBOR PARK ASYLUM.—Assistant Medical Officer. Salary £220 per annum, with board, apartments, attendance, &c.
BURY INFIRMARY.—Junior House Surgeon. Salary £100 per annum, with board, residence, and washing.
CAMBRIDGE, ADDENBROOKE'S HOSPITAL.—House Physician. Salary at rate of £80 per annum, with board, residence, and laundry.
CANCER HOSPITAL (FREE), Fulham-road, London, S.W.—Surgeon.
CARLISLE, CUMBERLAND AND WESTMORLAND ASYLUM, Garlands.—Junior Assistant Medical Officer, unmarried. Salary £200 per annum, with board, lodging, and washing.
CARLISLE NON-PROVIDENT DISPENSARY.—Resident Medical Officer. Salary £200 per annum, with apartments.
CHELSEA HOSPITAL FOR WOMEN, Fulham-road, S.W.—Clinical Assistants for three months.
CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL.—House Physician. Salary £90 per annum, with board, apartments, and laundry.
CHICHESTER, WEST SUSSEX COUNTY MENTAL HOSPITAL.—Junior Assistant Medical Officer. Salary £200 to £250 per annum, with apartments, board, laundry, and attendance.
COLCHESTER, SEVERALL'S ASYLUM.—Fourth Assistant Medical Officer and Pathologist. Salary £210 per annum, with apartments, board, attendance, and washing.
CROYDON GENERAL HOSPITAL.—Anæsthetist and Second House Surgeon. Salary £80 per annum, with board, laundry, and residence.
DARLINGTON HOSPITAL AND DISPENSARY.—House Surgeon, unmarried. Salary £120 per annum, with board, lodgings, and laundry.
DAVOS PLATZ, SWITZERLAND, QUEEN ALEXANDRA SANATORIUM.—Resident Assistant Medical Officer. Salary £100 per annum, with board, residence, and washing.
DERBY COUNTY ASYLUM, Mickleover, Derby.—Junior Assistant Medical Officer. Salary £200 per annum, with board, lodging, and washing.
DEVONPORT, ROYAL ALBERT HOSPITAL.—House Surgeon, unmarried. Salary £50 for first six months, £75 for second six months, and at rate of £150 per annum during second year. Also Assistant House Surgeon, unmarried. Salary at rate of £75 per annum, with board and laundry.
DEWSBURY AND DISTRICT GENERAL INFIRMARY.—House Surgeon. Salary £120 per annum, with board, residence, and washing.
DUMFRIES AND GALLOWAY ROYAL INFIRMARY.—Junior House Surgeon. Salary £65 per annum, with board and washing.
DUNDEE MATERNITY HOSPITAL.—Female Out-door Assistant for three months. Salary at rate of £40 per annum, with board, lodging and laundry.
EAST HAM EDUCATION COMMITTEE.—Assistant School Medical Officer. Salary £300 per annum.
FOLKESTONE, ROYAL VICTORIA HOSPITAL.—Resident House Surgeon. Salary £100 per annum, with apartments, board, and laundry.
GLASGOW, HAWKHEAD ASYLUM, Crookston.—Second Assistant Medical Officer. Salary £200 per annum, with apartments, board, and laundry.
GLOUCESTERSHIRE ROYAL INFIRMARY AND EYE INSTITUTION.—Assistant Surgeon.
GRAVESEND HOSPITAL.—House Surgeon. Salary £100 per annum, with board and residence.
GREAT YARMOUTH HOSPITAL.—House Surgeon, unmarried. Salary £140 per annum, with board, lodging, and washing.
GUILDFORD, ROYAL SURREY COUNTY HOSPITAL.—House Surgeon. Salary £100 per annum, with board, residence, and laundry.
HALIFAX ROYAL INFIRMARY.—Second House Surgeon and Third House Surgeon, unmarried. Salary £100 and £80 per annum respectively, with residence, board, and washing.
HAMPSTEAD GENERAL AND NORTH-WEST LONDON HOSPITAL.—Resident Medical Officer. Salary £200 per annum, with board, residence, and laundry. Also House Physician and House Surgeon at In-patients' Department, Haverstock-hill; and Casualty Officer at Out-patients' Department, Camden Town, for six months. Salaries at rate of £70 per annum, with board, residence, and laundry.
HASTINGS, EAST SUSSEX HOSPITAL.—Assistant House Surgeon. Salary at rate of £80 per annum, with residence, board, and washing.
HOSPITAL FOR SICK CHILDREN, Great Ormond-street, W.C.—Assistant Casualty Medical Officer, unmarried, for six months. Salary £30, with board, residence, &c.
HUDDERSFIELD ROYAL INFIRMARY.—Senior House Surgeon and Assistant House Surgeon. Salaries £100 and £80 per annum respectively, with board, rooms, and washing.
HULL ROYAL INFIRMARY.—Casualty House Surgeon for six months. Salary at rate of £80 per annum, with board and lodging. Also House Physician, unmarried. Salary £100 per annum, with board and apartments.
ITALIAN HOSPITAL, Queen-square, W.C.—Honorary Surgeon for In-patients.
KETTERING AND DISTRICT GENERAL HOSPITAL.—Resident Medical Officer, unmarried. Salary £120 per annum, with board, residence, &c.
KING EDWARD MEMORIAL HOSPITAL, Ealing, W.—Resident Medical Officer for six months. Salary at rate of £80 per annum, with board, residence, and laundry.
LEICESTER ROYAL INFIRMARY.—Assistant House Surgeon and Assistant House Physician for six months. Salaries at rate of £80 per annum, with board, apartments, and washing.
LIVERPOOL, TOWNSHIP OF TOXTETH PARK WORKHOUSE AND INFIRMARY.—Assistant Resident Medical Officer. Salary £150 per annum, with board, washing, and apartments.
LIVERPOOL UNIVERSITY, FACULTY OF MEDICINE.—George Holt Chair of Physiology. Salary £700 per annum.
MACCLESFIELD, CHESHIRE COUNTY ASYLUM, Parkside.—Locum Tenens for three or four months. Salary 4 guineas per week, with board, lodging, and washing.
MAIDSTONE, KENT COUNTY ASYLUM.—Fourth Assistant Medical Officer, unmarried. Salary £200 per annum, with quarters, attendance, washing, &c.
MANCHESTER CHILDREN'S HOSPITAL (OUT-PATIENTS' DEPARTMENT), Gartside-street, Manchester.—Medical Officer. Salary £180 per annum.
MANCHESTER, COUNTY ASYLUM, Prestwich.—Assistant Medical Officer, unmarried. Salary £250 per annum, with board, apartments, attendance, and washing.
MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN, Park-place, Cheetham Hill-road.—Junior House Surgeon. Salary £100 per annum, with apartments and board.
MANCHESTER ROYAL INFIRMARY, CONVALESCENT HOSPITAL, Cheadle.—Assistant Medical Officer, unmarried, for six months. Salary at rate of £80 per annum, with board and residence.
MANCHESTER, VICTORIA MEMORIAL JEWISH HOSPITAL, Cheetham.—Female Locum Tenens for three months.
MUKTESAR, INDIA, IMPERIAL BACTERIOLOGICAL LABORATORY.—Pathologist. Salary £560 per annum.
NEWARK-UPON-TRENT HOSPITAL.—Resident Medical Officer, unmarried. Salary £100 per annum, with board, lodging, and laundry.
NEWCASTLE-UPON-TYNE CITY HOSPITAL FOR INFECTIOUS DISEASES.—Resident Medical Assistant. Salary £125 per annum, with board, lodging, &c.
NEWCASTLE-UPON-TYNE, HOSPITAL FOR SICK CHILDREN.—Junior Medical Officer for six months. Salary £80 per annum, with board, lodging, and washing.
PADDINGTON GREEN CHILDREN'S HOSPITAL, London, W.—House Physician and House Surgeon for six months. Salary at rate of £52 10s. each per annum, with board and residence.
PORTSMOUTH, BOROUGH OF.—Assistant Medical Officer for Inspection of School Children. Salary at rate of £300 per annum.
PRESTON, COUNTY ASYLUM, Whittingham.—Assistant Medical Officer, unmarried. Salary £250 per annum, with board, apartments, and washing.
PRINCE OF WALES'S GENERAL HOSPITAL, Tottenham, N.—Honorary Medical Registrar. Also Pathologist. Salary 120 guineas per annum.
QUEEN'S HOSPITAL FOR CHILDREN, Hackney-road, Bethnal Green, E.—Resident Medical Officer. Salary £100 per annum, with board, residence, and laundry.
ROCHDALE INFIRMARY.—Senior House Surgeon, unmarried. Salary £110 per annum, with board, residence, and laundry.
ROTHERHAM HOSPITAL.—Assistant House Surgeon. Salary £100 per annum, with board, lodging, and washing.
ROUSAY AND EGILSHAY, PARISH OF.—Resident Medical Officer. Salary £71 per annum.
ROYAL FREE HOSPITAL, Gray's Inn-road, W.C.—Male and Female House Physicians and House Surgeons and Female Junior Obstetric Assistant for six months. Board, lodging, and washing provided.

Also Female Assistant Anæsthetist for six months. Salary £50 per annum.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City-road, E.C.—Honorary Anæsthetist.

RYDE, ROYAL ISLE OF WIGHT COUNTY HOSPITAL.—Vacancy on Honorary Medical Staff.

ST. ALBANS, MIDDLESEX COUNTY ASYLUM, Napsbury.—Junior Assistant Medical Officer. Salary £250 per annum, with board, lodging, washing, and attendance.

ST. GILES INFIRMARY, Brunswick-square, Camberwell, and GORDON-ROAD WORKHOUSE, Peckham.—Assistant Medical Superintendent. Salary £200 per annum, with apartments, board, and washing.

ST. MARK'S HOSPITAL FOR CANCER, FISTULA, AND OTHER DISEASES OF THE RECTUM, City-road, E.C.—Half-time Pathologist and Bacteriologist. Salary £100 per annum. Also House Surgeon. Salary £80 per annum, with board, lodging, and washing.

ST. MARYLEBONE INFIRMARY, Rackham-street, Notting Hill, W.—Third Assistant Medical Officer, unmarried, for six months. Salary £70, with apartments, rations, and washing.

ST. PAUL'S HOSPITAL FOR SKIN AND GENITO-URINARY DISEASES, Red Lion-square, Holborn, W.C.—Clinical Assistant in Out-patient Department.

SALFORD ROYAL HOSPITAL.—Junior House Surgeon and Casualty House Surgeon for six months. Salary at rate of £65 per annum each, with board and residence.

SALISBURY INFIRMARY.—Assistant House Surgeon, unmarried. Salary £50 per annum, with apartments, board, lodging, and washing.

SCARBOROUGH HOSPITAL AND DISPENSARY.—Junior House Surgeon. Salary £80 per annum, with board, residence, &c.

SEAMAN'S HOSPITAL SOCIETY.—DREADNOUGHT HOSPITAL, Greenwich: Medical Registrar. Salary £100 per annum, with luncheon. Also Two House Physicians and Two House Surgeons for six months. Salary £50 per annum each, with board, residence, and washing. ALBERT DOCK HOSPITAL, Connaught-road, E.: House Surgeon and House Surgeon to Out-patients for six months. Salary £75 per annum each, with board, residence, and washing.

SHEFFIELD ROYAL INFIRMARY.—House Surgeon and Ophthalmic House Surgeon for six months. Salary £80 per annum each, with board and residence.

SOUTH-EAST ESSEX UNITED DISTRICTS.—Medical Officer of Health for Rural District Councils of Chelmsford, Maldon, and Rochford. Salary £320 per annum.

SOUTHAMPTON, ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—Junior House Surgeon. Salary at rate of £100 per annum, with rooms, board, and washing.

SOUTHWARK UNION INFIRMARY, East Dulwich-grove, S.E.—Second Assistant Medical Officer and Third Assistant Medical Officer. Salary at rate of £120 per annum each, with board, lodging, and washing.

SUNDERLAND BOROUGH ASYLUM, Ryhope.—Assistant Medical Officer. Salary £300 per annum.

SUNDERLAND ROYAL INFIRMARY.—Junior House Surgeon. Salary £120 per annum, with board, residence, and laundry.

SURREY COUNTY COUNCIL, SURREY EDUCATION COMMITTEE.—Medical Practitioners specialising in Ophthalmic Surgery for appointments as Oculists. Salary at rate of 1 guinea for each school session of about two hours.

TREDEGAR, PARISH OF BEDWELLTY UNION WORKHOUSE AND CHILDREN'S HOMES.—Medical Officer and Public Vaccinator. Salary about £350 per annum.

WALSALL AND DISTRICT HOSPITAL.—Senior House Surgeon and Assistant House Surgeon. Salary £150 and £110 per annum respectively, with board, residence, and laundry.

WEST END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, PARALYSIS, AND EPILEPSY, 73, Welbeck-street, W.—Resident House Physician for six months. Salary at rate of £90 per annum.

WEST LONDON HOSPITAL, Hammersmith-road, W.—Honorary Medical Registrar.

WIGAN, ROYAL ALBERT EDWARD INFIRMARY AND DISPENSARY.—Junior House Surgeon. Salary £100 per annum, with board, apartments, and washing.

WILTS COUNTY COUNCIL.—Assistant School Medical Inspector. Salary £300 per annum.

WOLVERHAMPTON AND MIDLAND COUNTIES EYE INFIRMARY.—House Surgeon. Salary £100 per annum, with apartments, board, and laundry.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—Resident Medical Officer. Also House Surgeon. Salary in each case £125 per annum, with board, rooms, and laundry.

YORK COUNTY HOSPITAL.—House Surgeon for six months. Salary at rate of £100 per annum, with board, residence, &c.

THE Chief Inspector of Factories, Home Office, London, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Acts at Sanquhar, in the county of Dumfries; at King's Cliffe, in the county of Northampton; and at Enniscorthy, in the county of Wexford.

THE Home Secretary gives notice of a vacancy for a Medical Referee under the Workmen's Compensation Act, 1906, for the Portsmouth, Petersfield, Newport and Ryde, and Bishops Waltham County Courts. Applications should be made to the Private Secretary, Home Office, Whitehall, S.W.

Births, Marriages, and Deaths.

BIRTHS.

FOULKES.—On March 22nd, at Aveley, Purfleet, Essex, the wife of Peter Foulkes, M.B., of a son.

MOLLISON.—On March 17th, at Nevern Mansions, S.W., the wife of W. M. Mollison, M.A., M.C., F.R.C.S., of a son.

DEATHS.

BRANFOOT.—On March 17th, at Folkestone, Surgeon-General Sir Arthur M. Branfoot, K.C.I.E., I.M.S. (retired).

DALTON.—On March 23rd, at Hampstead, Benjamin Neale Dalton, M.D., aged 70.

Notes, Short Comments, and Answers to Correspondents.

HEALTH MATTERS IN THE EAST AFRICA PROTECTORATE.

A REPORT prepared by Mr. C. C. Bowring, C.M.G., on the East Africa Protectorate for the year 1912-13 has been received at the Colonial Office and presented to both Houses of Parliament. So far as medical matters are concerned the report is divided into sections, and may be summarised as follows:—

(A) PUBLIC HEALTH.

(1) *The coast zone.*—The general effect of this year has been to show an improvement over the conditions of the previous year, in some measure attributable to the partial failure of the heavy rains, followed by a diminution of such diseases as bronchitis, malaria, and diarrhœa. As usual, diseases of the digestive system and local injuries rank high as causes for appearing on the sick list. Eye affections also predominate, especially in the more sandy and less humid regions of Tanaland and Jubaland. In the town of Lamu an interesting condition of retinitis has been observed, due to the effects of sun glare; shading the eyes for a few days effects a cure. The number of cases of malaria treated was less than in the previous year, and the majority were of a mild type. There was a great diminution in the number of admissions for dysentery and the action towards controlling the disease has borne fruit. Only 3 cases of enteric fever amongst Europeans were reported, all of which proved fatal. During the year the town of Mombasa was visited by a severe epidemic of small-pox. The island was declared infected and the new Compulsory Vaccination Order applied. In all, 295 cases were reported, with 63 deaths. It seems likely that the infection was imported from Arabia. Helminthic cases are more common at the coast than elsewhere. Mombasa affords also some opportunity for the study of ankylostomiasis. One case of beri-beri appeared in the prison at Mombasa, but its origin could not be traced. A very serious mortality from this cause occurred amongst the Nubian troops stationed at the military outpost at Serenli on the River Juba. The general health of the officials at the coast was better than in previous years, and no official or member of his family was attacked by either plague or small-pox.

(2) *The mountainous area.*—This comprises the two Provinces of Ukamba and Naivasha, including the Uasin Gishu Plateau, with an altitude varying up to 9000 feet. The greater part of these areas is generally regarded as being specially adapted for settlement by Europeans. The capital of the Protectorate—Nairobi—and the township of Nakuru are situated in this area. Digestive and respiratory troubles, particularly pneumonia and local injuries, were as prominent as in other parts of the Protectorate. Of minor ailments, influenza at Nakuru, and tonsillitis, generally ascribed to dust infections during the dry seasons of the year, were prevalent, as well as veldt sores and jiggers. Malaria prevailed to a greater degree than in the previous year throughout the provinces, Nakuru showing the least incidence, as the anopheles mosquito is rarely found there. After the lapse of a year plague again made its appearance in the Indian Bazaar, Nairobi. There was a total of 17 admissions and 11 deaths—a mortality rate of 64·71 per cent. Dysentery accounted for 612 cases coming under treatment, and of these 52 died. 15 Europeans were included in the total treated, but none of them died. There were 23 cases of enteric fever, with 2 fatalities.

(3) *The Kenia and Nyanza Provinces.*—On the whole a better standard of health was maintained during the year, and beyond the usual amount of respiratory and digestive diseases and local injuries there is no particular incidence of disease to record. Malaria showed a notable increase during the rainy months, though the incidence varied slightly at the different stations. 3134 cases came under treatment. 79 cases of plague occurred at Kisumu. The death-rate therefrom was 89·87 per cent. Filariasis and leprosy are recorded as fairly common. Cases of elephantiasis abound more particularly on the Yala River in the northern portion of the Kavirondo Province, affecting a certain section of the Nandi tribe. There has been an improvement in the health of European officials, particularly those resident in out-stations.

(4) *The desert zone.*—Pneumonia is surprisingly common in the hot arid wastes of Jubaland. Eye affections and local injuries are not infrequent. The Gosha district, on the banks of the River Juba, is heavily infected with malaria. Small-pox was imported from Mombasa into Jubaland on three occasions during the year. Only one contact case resulted, though the disease was reported to have also

appeared around the Deshek Wama river. Dysentery, like malaria, is prevalent on the banks of the river. Early in the year a disastrous outbreak of beri-beri occurred amongst the troops stationed at the military outpost, Serenli, some 400 miles up the river. Out of a total number of 289 troops, women, and followers stationed at Serenli, 112 were attacked and 44 died. The health of European officials in the desert zone was on the whole remarkably good.

(B) SANITATION.

Under this head an account is given of various preventive measures adopted in regard to malaria, plague, small-pox, enteric fever, and helminthic diseases. It is pointed out incidentally that sleeping sickness is entirely confined to the shores of, and islands in, the Victoria Nyanza, and it is fairly evident that its dangers diminish yearly in importance. Each year shows an increase in the hut tax from the infected districts, thereby indicating that the re-population of the decimated districts is proceeding slowly but surely. With the extinction of the sleeping sickness camp the main control has been the inspection of the labour passing through Kisumu. The preventive measures adopted against plague were: isolation of sick and as many contacts as could be seized; the disinfection of the houses and effects in Kisumu and Mombasa by the closing of the house and the burning of sulphur and spraying of floors and walls with a disinfecting fluid; in Nairobi by means of a Clayton. In addition, at Nairobi, a portion of the goods shed was converted into a disinfecting chamber, and infected grain bags and goods Claytonised by means of the largest size Clayton fitted on two trucks. At Kisumu these goods and all native passengers' effects were disinfected by a smaller size Clayton fitted on a truck in the railway yard. Passengers leaving Kilindini and Kisumu by the railways or steamers were inspected; at the latter place over 10,000 were so dealt with. The trapping of rats was persisted in, 12,230 being caught. In Mombasa no infected rats were found. In Nairobi 97 showed infection. It is significant that 45 per cent. of the female rats caught in Kisumu were pregnant. Infected rats were found there on 11 occasions. Haffkine's prophylactic was undoubtedly the most valuable means for preventing plague. The numbers inoculated were: in Mombasa 89, in Nairobi 1400, and in Kisumu 6770. No case of plague occurred in those inoculated with Haffkine's prophylactic. In regard to small-pox 79,252 vaccinations were performed. The total quantities of lymph issued during the year were sufficient for 140,000 persons. The lymph used was entirely manufactured at the Bacteriological Laboratory. Where results could be inspected it is estimated that from 80 to 90 per cent. were successful. The most important point brought out by the experience of the year's work in connexion with typhoid fever has been to prove—what for long has been surmised—the rôle played by the native as a typhoid carrier.

(C) GOVERNMENT INSTITUTIONS.

The admissions to the European hospitals at Nairobi and Mombasa during the year totalled 276, and the percentage of deaths to admissions was 3·99. The principal diseases treated in hospital were: malaria (92 cases), enteric fever (23), diseases of respiratory system (13), and dysentery (10). Six major and 14 minor operations were performed during the year for, among other conditions, liver abscess, peritoneal cyst, hæmorrhoids, separation of gastric adhesions, intestinal obstructions, and appendicitis. In the bacteriological laboratory 2287 routine examinations were performed. In the lunatic asylum there were 32 males and 4 females admitted during the year, making with those remaining from the previous year a total of 72 under treatment. During the year there was a mortality of 22, giving the very high death-rate of 30·55 per cent. Fully half of these deaths occurred in the first quarter of the year, and were due to an outbreak of dysentery caused by polluted water. Cases are sent in from all over the Protectorate, and are frequently of a very violent nature. During the year a new wing was added to take in the females, and a European matron appointed. One padded cell is reserved for Europeans, but there are no wards for milder or convalescing cases. Mombasa and Kisumu both possess civil (native) hospitals, built of stone, of good design and construction. The civil hospital at Nairobi has been condemned since 1904 and is most unsuitable. Most of the other stations in the Protectorate are provided with small dispensaries, and usually a six-bedded ward under the charge of a member of the subordinate medical staff.

BRAILLE.

MANY people who had not previously heard the word Braille have learned during the past week that it relates to a raised type for assisting the blind to read books specially prepared for their use. Braille is the name of a man and not of a method of printing. Louis Braille was born at Coupvray (Seine-et-Marne), France, in 1809 and died in 1852, and although he was blind from the age of three he invented the system of writing in relief for the use of the blind. His name was given to the Ecole Braille at Saint-Mandé (Seine), one of the two French national establishments for the intellectual and professional instruction of the blind. The Braille system is more generally called the "Alphabet des Aveugles," and consists of the varying combinations of six dots in oblong arranged in two columns of three each, although all the six are not constantly used, some being in relief and others omitted to form the combinations; there is a kind of shorthand attached to it by which various letters repeated may mean quite long phrases or otherwise act as a code. In THE LANCET of June 27th, 1868, p. 830, we printed a special article upon the five systems which were then in common use in England, of which each had its partisans, and we commented upon the confusion caused and complimented a newly formed committee in London, of which Dr. T. R. Armitage was the originator, which had undertaken to test various systems and decide which was the best for general adoption. As a result of this investigation Braille's method was finally chosen by the British and Foreign Blind Association founded by Dr. Armitage, which became a centre for supplying frames for writing Braille. It is now desired to extend the library available in Braille for the use of the blind. Previous to the adoption of the Braille the system of Dr. W. Moon was rather favoured. He instituted a society in 1847 for embossing books in "Moon type," and was rather successful.

HEREDITY AND DEFORMITY.

IN No. 8 of the *Korrespondenzblatt für Schweizer Aerzte* (1914) Professor Carl Schlatter, of Zürich, has issued a paper on the Mendelian laws of heredity as illustrated by the genealogies of two subjects of syndactylism. With the assistance of Dr. Ferri, of Lugano, Professor Schlatter was able to follow up the cases. The first showed syndactylism of the toes through four generations, when it was found that out of a total of 33 persons no fewer than 22 had syndactylism. The deformity started, as far as could be traced, with a woman with syndactylism who was twice married, the first husband being similarly afflicted. All the children of the first and half the children of the second marriage showed the same deformity. Professor Schlatter and a well-known zoologist Professor Lang, reconstructing this genealogy on Mendelian principles, found that the theoretical and practical results coincided. The second pedigree showed cases of brachidactylism and hyperdactylism; 14 members of a family of 61 throughout three generations were similarly afflicted.

DISEASE AMONGST BAKERS.

A NEW law recently passed in New York requires the medical examination of all persons engaged in the bakery trade. It is obviously important that all engaged in the handling of food should possess as high a level of health as can be attained, and the results of the examination of 3587 employees of a large New York business concern (*vide* Weekly Bulletin of the Department of Health of the City of New York, U.S., vol. iii., No. 7, Feb. 14th, 1914), of whom 1757 were males and 1830 females, are certainly gratifying to the company concerned and to the city of New York, where its factories are. They are also reassuring generally, for we have no reason to suppose that in the main there would be any material difference between these figures and those of similar concerns in other cities or civilised countries. The examination, which was conducted conjointly by the medical officer of the company and the Department of Health, showed a total morbidity figure of 66 out of 3587, which gives a ratio of 1·84 per cent. The morbid conditions represented were as follows: tuberculosis (suspected only, no case positive on sputum examination) 10, bronchitis 13, heart troubles 10, various skin diseases 22, throat disease (enlarged tonsils) 9, syphilis 2. Of course, one of the greatest dangers, and that most likely to be overlooked, would be the presence of carriers—diphtheria or typhoid. Unless specially looked for these would be hardly likely to be noticed. Another consideration is that it is more than probable that there would be a higher morbidity rate among the very small and individual concerns than among a large and well-organised industrial company.

PRUDENTIAL ASSURANCE COMPANY, LIMITED.

THE report for 1913 has just been issued. In the Ordinary Branch the number of policies in force at the end of the year was 917,091. The premiums received were £4,920,518 and the claims amounted to £3,766,625. In the Industrial Branch the number of policies in force at the end of the year was 19,778,135. The premiums received during the year were £7,874,456, and the claims amounted to £3,139,193. The assets of the company in both branches, as shown in the balance sheet, after deducting £1,750,000 written off securities, are £86,993,003, being an increase of

£2,421,071 over those of 1912. The total surplus of the two branches is £3,908,605, which is disposed of as follows: £1,250,000 to the Investments Reserve Funds, £2,198,854 to be distributed among participating policy-holders and the staff, and £459,751 to be carried forward. The directors' report is accompanied by the actuarial report of Mr. J. Burn. There are six Prudential Approved Societies under the National Insurance Act, 1911. Payment of sickness and maternity benefits commenced on Jan. 13th, 1913, and during the year a sum of £1,401,360 was distributed to members by the company's agents. The amount paid by the Approved Societies for expenses to the Industrial Branch of the Prudential was £296,630 6s. 3d.

EXPOSING CHILDREN IN ORDER TO OBTAIN ALMS.

AT the Marylebone police court recently Mr. Paul Taylor sentenced to 21 days' imprisonment a man who had been playing an organ in the streets at night while his wife sat on the shafts with an infant 12 months old in her arms. They had between them when arrested 11s. 3d. in silver and bronze, and an inspector of the National Society for the Prevention of Cruelty to Children stated that the man had once told him that he could earn 5s. a day by using his children in the manner described. Mr. Paul Taylor, in sentencing the male defendant and dismissing the case against the wife, said that to permit such a practice would be to put a premium upon cruelty. The man, we have seen stated, was in a deplorable condition of health.

A CATALOGUE OF MEDICAL BOOKS.

CATALOGUES of medical or other special books, when well prepared with a good index, are not only needed by those who intend to purchase some of the works enumerated, but are also useful as reference books in themselves to past and current literature and as a ready means of knowing what has been written on any one special subject or of refreshing the memory as to the exact title of a work which may be well known but whose specific designation cannot be recalled at the moment by a dormant memory. It might even be desirable to have a catalogue of catalogues. Messrs. Butterworth's "Medical Catalogue for 1914," with 202 pages, is a most useful catalogue and has been well prepared, and firms which prepare books of this sort should be encouraged. It may be obtained by medical men on addressing Messrs. Butterworth and Co. (Australia), Limited, 4, Bell-yard, Temple Bar, London, or 76, Elizabeth-street, Sydney, New South Wales.

J. N.—Particulars of the Salisbury treatment were given in THE LANCET of July 3rd (p. 11) and 10th (p. 115), 1897.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

A DIARY OF CONGRESSES.

WE shall publish this diary from time to time that our readers may have under their hands the dates of the approaching scientific Congresses. It is unnecessary to issue the lists of all these functions week by week, and we propose to make only such gatherings as will occur in the immediate future the subject of regular announcement. The following Congresses, Conferences, and Exhibitions are announced:—

April 13th and 14th (Berlin).—Thirteenth Congress of the German Orthopædic Society.
,, 13th–16th (New York).—Fourth Congress of the International Surgical Society. (President: Prof. Depage. Bruxelles.)
,, 15th–18th (Berlin).—Forty-third Congress of the German Surgical Society.
,, 19th–21st (Berlin).—"Jubilee" Congress of the German Röntgen Society.
,, 20th–23rd (Wiesbaden).—Thirty-first German Congress for Internal Medicine.
,, 27th-May 1st (London, Royal Horticultural Hall).—Nursing Conference and Exhibition.
May 1st–Nov. 1st (Lyons).—International Town Hygiene Exhibition.
May (London, Imperial Institute).—Victoria League Imperial Health Conference.
May–October (London, Shepherd's Bush).—Anglo-American Exposition.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, March 25th, 1914.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radiation Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Mar. 19	29·22	S.	0·13	70	46	37	37	37	Raining
,, 20	28·74	S.E.	0·17	49	41	37	37	38	Raining
,, 21	29·10	W.	0·41	72	46	35	38	39	Overcast
,, 22	29·32	S.W.	0·07	89	51	35	37	39	Fine
,, 23	29·64	S.W.	0·03	69	50	35	39	40	Cloudy
,, 24	29·24	S.W.	0·10	90	53	40	42	43	Cloudy
,, 25	29·19	S.W.	0·03	78	51	37	39	40	Fine

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY, Burlington House, London W.
THURSDAY.—4.30 P.M., Bakerian Lecture:—Prof. A. Fowler: Series Lines in Spark Spectra.

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.
TUESDAY.
SECTION OF PATHOLOGY (Hon. Secretaries—Gordon W. Goodhart, C. Price-Jones): at 8.30 P.M.
Laboratory Meeting at the Pathological Department, St. Mary's Hospital, W.
Dr. Charles Russ: Electrically Induced Changes in Colon Bacilli in Vivo and in Pure Cultures.
Dr. E. H. Kettle: (1) New Growths of the Vermiform Appendix; (2) Diffuse Carcinomatosis of Spleen; (3) Kidney Tumours.
Dr. H. Warren Crowe: Method for Testing the Sugar Reactions of Bacteria.
Dr. B. H. Spilsbury: Growths of the Nervous System.
THURSDAY.
SECTION OF BALNEOLOGY AND CLIMATOLOGY (Hon. Secretaries—Chas. W. Buckley, J. Campbell McClure): at 5.30 P.M.
Dr. C. W. Buckley (Buxton): Painful Affections of the Shoulder, their Diagnosis and Treatment.
SECTION OF OBSTETRICS AND GYNÆCOLOGY (Hon. Secretaries—T. Watts Eden, C. Hubert Roberts): at 8 P.M.
Discussion:
On the Need for Research in Ante-natal Pathology; opened by Dr. Amand Routh.
The following will take part in the discussion:—Dr. J. W. Ballantyne. Dr. G. F. Blacker, Dr. Eardley Holland, Dr. Handfield-Jones, Dr. F. W. Mott, F.R.S., Dr. H. Leith Murray, Dr. A. W. Russell, Dr. Darwall Smith, and Dr. H. R. Spencer.
FRIDAY.
SECTION OF LARYNGOLOGY (Hon. Secretaries—E. A. Peters, Cecil I. Graham): at 4 P.M.
Discussion:
On the Intranasal Treatment of Frontal Sinusitis; opened by Dr. Watson-Williams and Mr. Herbert Tilley.
Sir StClair Thomson and others will take part in the discussion.

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish square, W.
MONDAY.—8.30 P.M., Sir StClair Thomson: Three Years' Sanatorium Experience of Laryngeal Tuberculosis.—Mr. T. B. Layton: Tonsils and Adenoids in Children: a Plea for Fewer Operations.

NORTH-EAST LONDON CLINICAL SOCIETY, Prince of Wales's Hospital, Tottenham, N.
THURSDAY.—4.15 P.M., Clinical Meeting.

CHILD STUDY SOCIETY, LONDON, Royal Sanitary Institute, 90, Buckingham Palace-road, S.W.
THURSDAY.—7.30 P.M., Lecture: Dr. L. Guthrie: The Nervous Child.

HARVEIAN SOCIETY OF LONDON, Stafford Rooms, Titchborne-street, Edgware-road, W.
THURSDAY.—8.30 P.M., Paper:—Dr. C. Shaw: A Plea for the Degenerate.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY, West London Hospital, Hammersmith-road, W.
FRIDAY.—8 P.M., Special Clinical Evening.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East.
TUESDAY AND THURSDAY.—5 P.M., Oliver-Sharpey Lectures: Dr. F. G. Hopkins: On Some Effects which Follow upon Disturbances in the Chemical Reaction of the Blood. (Lectures I. and II.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies street, W.C.
MONDAY.—4 P.M., Dr. R. G. Little: Clinique (Skin). 5.15 P.M., Lecture:—Dr. A. F. Tredgold: Some Points in Heredity.
TUESDAY.—4 P.M., Dr. H. L. Tidy: Clinique (Medical). 5.15 P.M., Lecture:—Dr. H. Orton: The X Ray Examination of the Chest.
WEDNESDAY.—4 P.M., Mr. H. A. T. Fairbank: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. J. A. Willett: The Importance of Abdominal Examination of Patients during the Later Months of Pregnancy and Parturition.
THURSDAY.—4 P.M., Dr. R. Wells: Clinique (Medical). 5.15 P.M., Lecture:—Mr. H. A. Kisch: Danger Signals in Suppuration of the Middle Ear.
FRIDAY.—4 P.M., Mr. J. F. Cunningham: Clinique (Eye).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.
MONDAY.—10 A.M., Dr. Simson: Diseases of Women. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Armour: Operations. Dr. Pritchard: Bacterial Therapy Department. 2.30 P.M., Mr. Dunn: Diseases of the Eye.
TUESDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations. Mr. B. Harman: Diseases of the Eye. Dr. Simson: Diseases of Women.
THURSDAY.—9 A.M., Dr. Bernstein: Bacterial Therapy Department. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Armour: Operations. 2.30 P.M., Mr. Dunn: Diseases of the Eye.
FRIDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin.
SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. Mr. B. Harman: Diseases of the Eye. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Clinics:—10.30 A.M., Surgical Out-patient (Mr. B. Gillespie). 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Gynæcological (Dr. Banister). 3 P.M., Medical In-patients (Dr. R. M. Leslie).
TUESDAY.—2.30 P.M., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld); Surgical (Mr. Howell Evans); Nose, Throat, and Ear (Mr. H. D. Gillies). X Ray and Electrical Methods. 3.30 P.M., Medical In-patient (Dr. Whiting).
WEDNESDAY.—Clinics:—2 P.M., Throat Operations (Mr. Gillies). 2.30 P.M., Children's Out-patient (Dr. T. R. Whipham); Skin (Dr. G. N. Meachen); Eye (Mr. Dorgil).
THURSDAY.—2.30 P.M., Gynæcological Operations (Dr. A. E. Giles). Clinics:—Medical Out-patient (Dr. A. J. Whiting); Surgical (Mr. Carson); X Rays and Electrical Methods (Dr. Metcalfe).
FRIDAY.—2.30 P.M., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld); Surgical (Mr. B. Gillespie); Eye (Mr. R. P. Brooks). 3 P.M., Medical In-patient (Dr. G. P. Chappel).

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

WEDNESDAY.—Out-patient Demonstrations: 10 A.M., Dr. H. B. Carlill: Medical. Mr. Cecil Rowntree: Surgical. 11 A.M., Mr. R. H. Bickerton: Eye.—2 P.M., Mr. L. V. Cargill or Mr. Choyce: Operations. 2.15 P.M., Dr. F. Taylor: Medicine. 3.15 P.M., Mr. Cargill: Eye Clinique. 4.30 P.M., Mr. C. C. Choyce: Surgery.
THURSDAY.—Out-patient Demonstrations:—10 A.M., Dr. H. R. Prentice: Medical. Mr. H. Curtis: Surgical. 12 noon, Mr. G. N. Biggs: Throat, Nose, and Ear.—2 P.M., Mr. R. Carling or Mr. W. Turner: Operations. Dr. A. Davies: Pathological Demonstration. 3.15 P.M., Dr. R. Wells: Medicine.
FRIDAY.—Out-patient Demonstrations:—10 A.M., Dr. C. E. Zundel: Medical. Mr. Cole: Surgical. 12 noon, Dr. H. MacCormac: Skin.—2 P.M., Mr. L. McGavin: Operations. 2.15 P.M., Sir John Rose Bradford: Medicine 3.15 P.M., Mr. L. McGavin: Surgery.
SATURDAY.—Out-patient Demonstrations: 10 A.M., Dr. H. R. Prentice: Medical. Mr. Cecil Rowntree: Surgical. 11 A.M., Mr. R. H. Bickerton: Eye.—10 A.M., Col. Barry: Radiography.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.

WEDNESDAY.—4.30 P.M., Lecture:—Dr. Inman: On Sputum, Tuberculous and Otherwise.

THE THROAT HOSPITAL, Golden-square, W.

MONDAY.—5.15 P.M., Special Demonstration of Selected Cases.
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TUESDAY AND FRIDAY.—3 P.M., Lectures:—Dr. D. McKenzie: Endoscopy.

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WEDNESDAY.—5 P.M., Mr. Leitch: Some Problems of Cancer.

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